

**CHUKA**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF EDUCATION ARTS**

**EPSC 123: STATISTICAL METHODS**

**STREAMS: BED (ARTS) Y1S2 SB**

**TIME: 2 HOURS**

**DAY/DATE: THURSDAY 12/04/2018**

**11.30 A.M. – 1.30 P.M.**

**INSTRUCTIONS:**

- **Do not write on the question paper.**
- **Answer questions one and any other two.**

**QUESTION ONE**

- (a) Explain any five importance of statistical methods in education. (10 marks)
- (b) Citing examples, discuss the following types of statistics
- (i) Inferential statistics (5 marks)
- (ii) Correlational statistics (5 marks)
- (c) Represent the following data on a bar graph. (6 marks)

Subject English Math CRE Biology History Business  
 Score 40 60 70 30 70 50

- (d) Distinguish between population and samples as used in statistics. (4 marks)

**QUESTION TWO**

Use the data below to answer questions that follow

40	3	21	4	43	8
35	12	26	9	38	2
36	8	30	10	40	1
32	16	44	19	41	43

- (a) Arrange the data in a frequency table using class of 0-4, 5-9, 10-14. (3 marks)
- (b) Identify the modal class. (1 mark)
- (c) Calculate the mean. (3 marks)
- (d) Compute the median. (4 marks)
- (e) Work out the variance. (5 marks)
- (f) Calculate the range. (2 marks)
- (g) Compute the standard deviation. (2 marks)

**QUESTION THREE**

- (a) The mock and final examination of six students are tabulated as follows.

Mock	30	45	50	35	37	48
Final	70	80	95	75	75	88

Calculate the product moment correlation coefficient. (10 marks)

- (b) Two dice are tossed together. What is the probability that the product of the two upper faces are:
- (i) Nine (2 marks)
- (ii) Less than 16 (2 marks)
- (iii) Greater than 25 (2 marks)
- (iv) At least 18 (2 marks)
- (v) At most 30 (2 marks)

**QUESTION FOUR**

- (a) Describe the steps involved in hypothesis testing. (5 marks)
- (b) The control and experimental groups generated the following data.

Experimenta l	60	50	30	40	70	80
Control	30	40	10	10	50	60

Calculate the t-computed. (15 marks)

