



*(Knowledge for Development)*

## **KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**2015/2016 ACADEMIC YEAR**

**FIRST YEAR FIRST SEMESTER**

**MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF EDUCATION**

**(SCHOOL BASED)**

**COURSE CODE: STA 141**

**COURSE TITLE: INTRODUCTION TO STATISTICS**

**DATE: 18/4/16**

**TIME: 3.00 PM- 5.00 PM**

---

### **INSTRUCTIONS TO CANDIDATES**

Answer Question One and Any other TWO Questions

TIME: 2 Hours

This Paper Consists of 3 Printed Pages. Please Turn Over.

### QUESTION ONE COMPULSORY (30 MARKS)

- (i) Define the term statistics stating its significance and limitations as used in data analysis  
(6 mks)
- (ii) Distinguish between Nominal data and Ordinal data (2 mks)
- (iii) Give five characteristics of a good measure of central tendency (2 mks)
- (iv) Use a **Stem** and **Leaf** display to organize the following set of scores.

86 114 94 107 96 100 98 118 107 132 106 127  
124 108 112 119 125 114

Explain how a Stem and Leaf display contains more information than a group frequency distribution (4 mks)

- (v) What do you understand by the terms Skewness and Kurtosis? Point out their role in analysis of a frequency distribution. (4 mks)
- (vi) Explain the term Dispersion in Statistics. What purpose does a measure of dispersion serve
- (vii) Find the equation of the regression line and compute the value of the correlation coefficient for the following data. (8 mks)

Income x	80	100	120	140	160	180
Consumption y	325	462	445	707	678	750

### QUESTION TWO (20 MARKS)

The following data is a sample of the accounts received of a small merchandising firm

37 42 44 47 46 50 48 52 90  
54 56 55 53 58 59 60 62 57  
60 61 62 63 57 64 63 68 92  
67 65 66 68 69 66 70 72 35  
73 75 74 72 71 76 81 80 40  
79 80 78 82 83 85 86 88 38

- (a) Using class interval of 5 i.e 35-39; make a frequency distribution table (4 mks)
- (b) Construct a histogram and frequency polygon (6 mks)
- (c) Calculate the mean, mode and median, hence comment about the symmetry (10 mks)

### QUESTION THREE (20 MARKS)

Calculate the Mean, Mean deviation, 2<sup>nd</sup> moment about the mean and Standard deviation from the following data.

MARKS	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
No of students	5	6	15	10	5	4	2	2

### QUESTION FOUR (20 MARKS)

- a) Define the coefficient of variation (2 mks)
- b) The following table gives profits (in ten thousands of shillings) of two supermarkets over a duration of one year.

Month	Supermarket A	Supermarket B
January	65	28
February	48	33
March	15	20
April	28	23
May	41	69
June	59	45
July	41	53
August	10	15
September	24	35
October	56	57
November	92	99
December	120	136

#### Required:

- i) Compute the coefficient of variation for each supermarket. (17 mks)
- ii) Indicate for which supermarket the variability of profits is relatively greater. (1 mk)

### QUESTION FIVE (20 MARKS)

- a) Construct the Cost of living Index number from the following data (12 mks)

GROUPS	WEIGHT	GROUP INDEX NUMBER
Food	35	245
Fuel and lighting	15	260
Clothing	10	285
House Rent	18	0
Miscellaneous	20	200

- b) What do you understand by the term index number? (2 mks)
- c) Highlight the importance and limitations of using index numbers in data analysis (6 mks)

END