

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS FOR THE AWARD OF BACHELOR OF SCIENCE IN
ECONOMICS AND STATISTICS, BACHELOR OF ARTS IN ECONOMICS AND
SOCIOLOGY, BACHELOR OF ARTS IN ECONOMICS & MATHEMATICS**

ECON 235: ECONOMICS STATISTICS II

STREAMS: B.A (ECON MATH), B.sc(ECON STAT), B.A (ECON SOC) TIME: 2 HOURS

DAY/DATE: WEDNESDAY 12/9/2018

8.30 AM – 10.30 AM

INSTRUCTIONS:

Answer Question One and any other Two from the remaining

QUESTION ONE

- a) Write short notes on the following:
- i. Regression co-efficient [4 Marks]
 - ii. Regression equations [4 Marks]
 - iii. Standard error of estimates [4 Marks]
 - iv. Co-efficient of determination [4 Marks]
 - v. Co-efficient of non-determination [4 Marks]

b) The table below shows the number of motor vehicles registration in a certain territory for a term of five years and the sale of motor tyres by a firm in that territory for the same period.

Year	Motor Registration	No. of Tyres sold
1	600	1250
2	630	1100
3	720	1300
4	750	1350
5	800	1500

Find the regression equation to estimate the sale of tyres when the motor registration is known. Estimate the sale of tyres when motor registration is 850. [10 Marks]

QUESTION TWO

Four coins are tossed at time 208 times. Number of heads observed at each throw is recorded and the results are as follows:

Heads	0	1	2	3	4	Total
Frequency	5	48	112	35	8	208

- i. Fit a binomial distribution to the above data [10 Marks]

- ii. Briefly discuss characteristics of Poisson process [10 Marks]

QUESTION THREE

- i. Correlation does not necessarily mean causation. Discuss. [5 Marks]
- ii. Find the Pearsonian correlation coefficient from the following series of marks obtained by 10 students in a class test in mathematics (X) and statistics (Y) [10 Marks]

X	45	70	65	30	90	40	50	75	85	60
Y	35	90	70	40	95	40	60	80	80	50

- iii) Compute the probable error PE(r) [5 Mark]

QUESTION FOUR

The following table gives the monthly sales of a certain firm in three states by its four salesmen:

States	Salesmen				Total
	A	B	C	D	
X	5	4	4	7	20
Y	7	8	5	4	24
X	9	6	6	7	28
Total	21	18	15	18	72

Set up an analysis of variance table for the above information. Calculate the F-coefficient and state whether the difference between sales affected by the four salesmen and difference between sales affected in three states are statistically significant. [20 Marks]
