P. O.Box 845-50400 Busia(K)
principal@auc.ac.ke
Tel: +254 741 217 185
+254 736 044 469
off Busia-Malaba road

ALUPE UNIVERSITY COLLEGE

...Bastion of Knowledge...

OFFICE OF THE DEPUTY PRINCIPAL

ACADEMICS, RESEARCH AND STUDENTS' AFFAIRS

UNIVERSITY EXAMINATIONS

2018 /2019 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER REGULAR EXAMINATION

FOR THE DEGREE OF BACHELOR OF ARTS IN ECONOMICS

COURSE CODE:STAT 213

COURSE TITLE: INTERMEDIATE MICRO ECONOMICS

DATE: 10/12/2018   **TIME: 9.00am -12.00pm**

INSTRUCTION TO CANDIDATES

- **SEE INSIDE**

THIS PAPER CONSISTS OF 3 PRINTED PAGES   **PLEASE TURN OVER**

STA: 213 SOCIAL AND ECONOMIC STUDIES

STREAM: STATISTICS   DURATION:3 HOURS

INSTRUCTIONS TO CANDIDATES

    i.   *Answer three questions. Question one is compulsory*

    ii.   *Do not write on the question paper*

Question One (30 marks)

1. (a) Distinguish between the following terms as used in social statistics.

(i) Type I error and type II error
(ii) Descriptive and inferential statistics
(iii) Null hypothesis and alternative hypothesis
(iv) Statistic and statistics
(v) Sample and population [10 Marks]

(b) Describe in detail the steps followed in hypothesis testing. [7 Marks]

(c) State and explain four applications of statistics in social sciences. [8 Marks]

Question Two

a) Explain what you understand by the sampling distribution of the mean (3 marks)
b) Consider that you have five products in the market. The new strategy is to market all the products taking three at each proportional tour to minimize costs of marketing. If the cost of product promotion is as follows;
Product Cost
A 2000
B 3000
C 3000
D 4000
E 1000

i) Generate sampling distribution of the mean (7 marks)
ii) Find the mean of the distribution (3 marks)
c) Assume that the study on labour turnover yielded the following cross tabulated data;
Secondary College Tertiary

Changed jobs 350 500 520
No changed in jobs 750 500 180
Test whether the level of education is associated with labour turnover. (7 marks)

Question Three

a) Calculate the consumer price index and the inflation rate. A fixed basket of goods 3 plates of pilau and 3 loaves of bread. (6mks)

Year	Pilau Price	Price of Bread
2000	1	2
2001	2	3
2002	3	4

    i)   Compute the Cost of the basket of goods in each year (4 marks)

    ii)   Calculate the consumer price index (4 marks)

    iii)   Calculate the inflation rate (4 marks)

b) In 2000 the consumer price index was and the average starting salary for a statistics graduate was Ksh. 44, 000. Today the CPI is 180 and the average starting salary is Ksh. 70,000.

Are the   statistics graduates better off today or in 2000? (8mks)

Question Four

    a) Highlight the likely effect of the introduction of ATMs on Gross Domestic Product [3 marks]

    b) Given:

$Y = C + I0 + G0$.. (1)

$C = a + b(Y-T)$.. (2)

$T = d + tY$............ ....(3)

Compute the equilibrium values of Y^*, C^* and I^* [7 marks]

    c) A firm has four plants scattered around the city producing the same homogeneous item at all plants. The first plant produces 30 per cent of the total production, second plant 25 per

cent, third plant 35 per cent and the fourth plant 10 per cent. The firm has a single warehouse in the city for storing the finished product of all the plants without any distinction. From the past performance records on the proportion of defectives, it has been found that 5 per cent, 10 per cent, 15 per cent and 20 per cent from the items produced at plants 1, 2, 3, and 4 respectively are defective. Before the shipment of the items to a dealer, one unit is selected and found defective. What is the probability that the item was produced in plant 3? **(10 marks)**

Question Five

a) Calculate the Karl Pearson's coefficient of correlation between X and Y given.

X	23	27	28	28	28	30	30	33	35	38
Y	18	20	22	27	21	29	27	29	28	29

(10 marks)

a) Calculate the arithmetic mean from the following data using an assumed mean of 25 by short cut method. (10 marks)

Values	5	10	15	20	25	30	35	40	45	50
Frequency	20	43	75	67	70	45	40	10	8	6

****