MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF ECONOMICS AND STATISTICS

BACHELOR OF ECONOMICS

EES 201: STATISTICS FOR ECONOMICS I

DATE: 21/1/2021 **TIME:2.00-4.00 PM**

INSTRUCTIONS:

Answer Question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

a) Explain briefly different meaning of statistics (4 marks)

b) Define the following terms:- (6 marks)

i. Ogive curves

ii. The Z chart

c) Discuss the steps in statistical enquiry (6 marks)

d) In class of 25 student of economics and statistics wrote a test and results of this test are summarized as follows:

12	12	10	11	9	13	12	15
11	13	7	12	11	9	10	16
13	17	6	10	15	5	6	8
9							

Calculate the following Mean and Median for this set of data. (4 marks)

e) Given the table below, represent the information pie chart and bar chart. (6 marks)

Departments	**Students**
Economic	500
Business	1400
Education	1200
Engineering	400
Archetecture	100

f) Explain briefly FOUR characteristics of a Normal Distribution. (4 marks)

QUESTION TWO (20 MARKS)

a) Differentiate between primary and secondary data types**.** (2 marks)

b) The table below represents an extract of raw data of Statistics for Economics exam results in Machakos university in 2018.

49	41	45	53	47	46	48	42	43	46
45	36	56	44	61	68	54	58	51	47
47	49	42	48	53	48	41	65	45	52
58	50	55	45	43	72	63	45	38	43
42	47	43	49	46	57	49	44	47	48

i. Using the marks data in the table, construct Frequency Table. (8 marks)

ii. Calculate the median mark in this examination (4 marks)

g) The table below gives the length of clothes from a tailor shop.

Length (Cm)	Freq(f)	Midpoint (x)	f x
10 – 20	3	15	45
20 – 30	7	25	175
30 – 40	10	35	350
40 – 50	16	45	720
50 – 60	34	55	1870
60 – 70	13	65	845
70 – 80	7	75	525
80 – 90	6	85	510
90 – 100	4	95	350

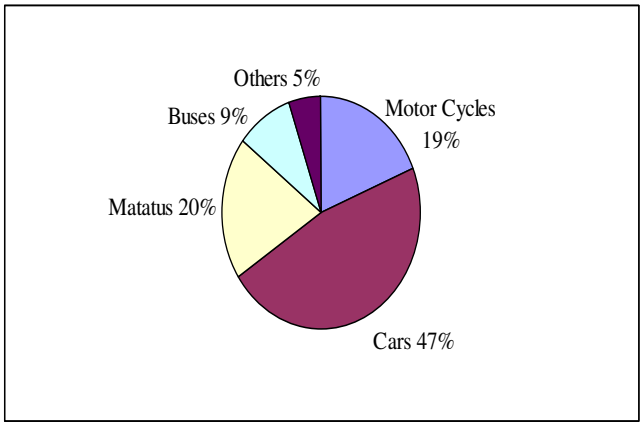
Calculate

i. Arithnetric (4 marks)

ii. Mode (2 marks)

QUESTION THREE (20 MARKS)

a) Study the pie chart below and present information on table assuming that total vehicles observed were one million. (6 marks)



b) A GM plant producing Dello car batteries designed to detect and eliminate defective products uses 2 separate work shifts, in the morning (8.00 A.M. – 4.40 P.M) and evening (5 – midnight) to produce batteries. The quality control department regularly tests samples of these batteries after they have set dormant for at least 6 months to determine whether they would have a charge. The morning shift produces 65 % of all the batteries and evening shift the other 35 %. Previous examinations by the quality control have revealed that 5 % of the batteries produced by the morning shift are defective while the evening shift has a defective rate of 8 %.During the spot checks, the plant manager selects one battery and tests it himself. The last battery checked was found to be defective. The manager wanted to know which shift was more likely to have produced that defective battery. (10 marks)

c) Assume you are the officer in-charge of sickness and absence records, and that you kept records on 30 officers in your company over a 91-day period. The data for your records are tabulated below:

Number of officers absent	0	1	2	3	4	5
Number of days	44	19	10	8	7	3

Calculate the sample mean of the number of officers absent. (4 marks)

QUESTION FOUR (20 MARKS)

a) Using at least THREE real world examples, describe clearly how the economist can use statistics to solve world economic problems. (5 marks)

b) Using table below:

Class	Σf	cf
5.5 – 9.5	5	5
10.5 – 14.5	6	11
15.5 – 19.5	15	26
20.5 – 24.5	10	36
25.5 – 29.5	5	41
30.5 – 39.5	4	45
35.5 – 39.5	2	47
40.5 – 44.5	2	49

Calculate

First and fourth quartile (5 marks)

c) The Statistics for Economics CAT results are tabulated below. (10 marks)

CAT:20,16,14,10,12,13,17,21,12,25,23,24,11,12,10,14,9,8,7

Calculate:

i. Mean deviation

ii. Variance

iii. Standard deviation

iv. Coefficient of variation (CV)

QUESTION FIVE (20 MARKS)

a) In the probability of multiple events, explain what you understand by the following terms:

i. Mutually exclusive events, (3 marks)

ii. Collectively exhaustive events, (3 marks)

iii. Independent Events, and (3 marks)

iv. Complementary Events. (3 marks)

b) Define the following terms (8 marks)

i. Population

ii. Census

iii. Sample

iv. Statistics