



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF ECONOMICS AND FINANCE

BACHELOR OF ECONOMICS

EES 201: STATISTICS FOR ECONOMICS I

DATE: 5/12/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS:

- (i) Answer question one (Compulsory) and any other two questions
- (ii) Do not write on the question paper
- (iii) Show your working clearly

QUESTION ONE; COMPULSORY (30 MARKS)

- a) Explain clearly the functions and uses of statistics (6 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)
 - iii. Differentiate between primary and secondary data types. (2 marks)
- c) Statistic is known to solve many real world problem whereby in doing so a complete statistical study must follow a number of steps/stages. List the steps and briefly explain them. (5 marks)
- d) Statistical enquiry has a number of steps to be followed. Briefly describe these steps (5 marks)

QUESTION TWO (20 MARKS)

- a) Differentiate between Arithmetic Mean and Harmonic Mean as used in statistics calculations. (5 marks)
- b) 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. Arithmetic and Geometric Mean (5 marks)
 - ii. Mode (3 marks)
 - iii. Median (2 marks)
- c) Define the following terms (5 marks)
- i. Population
 - ii. Census
 - iii. Bar Graph
 - iv. Pie charts

QUESTION THREE (20 MARKS)

- a) In class of 25 student of economics and statistics wrote a test and results of the 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

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Calculate the following:

- i. Mean for this set of data. (3 marks)
- ii. Median for this set of data. (2 marks)
- iii. Mode values for this set of data. (2 marks)
- b) Define the following terms:- (6 marks)
 - i. Ogive curves
 - ii. Lorenz curve
 - iii. The Z chart
- c) Explain briefly characteristics of a Normal Distribution. (7 marks)

QUESTION FOUR (20 MARKS)

- a) Describe the demerits of median as a measure of central tendency (3 marks)
- b) Statistics has different meaning. Briefly explain these different meaning of statistics (5 marks)
- c) 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

- i. First and fourth quartile (6 marks)
- ii. Deciles and percentile (6 marks)

QUESTION FIVE (20 MARKS)

- a) 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

- i. Calculate the sample mean of the number of officers absent. (5 marks)
 - ii. Calculate the standard deviation of the number of officers absent per day. (5 marks)
- b) Given the table below, represent the information pie chart and bar chart. (5 marks)

<u>Departments</u>	<u>Students</u>
Economic	500
Business	1400
Education	1200
Engineering	400
Archetecture	100

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