



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2015/2016

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

**SECOND SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF ECONOMICS AND FINANCE
EES 201: STATISTICS FOR ECONOMISTS I**

DATE: 2/8/2016

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

Answer QUESTION ONE and ANY OTHER TWO

QUESTION ONE:

- i) Define statistics in plural form and briefly but clearly explain the characteristics of statistical data (12 marks)
- ii) Distinguish between the following terms
 - a) Histogram versus bar graph (6 marks)
 - b) Geometric mean versus harmonic mean (6 marks)
 - c) Skewness versus kurtosis (6 marks)

QUESTION TWO

- a) Discuss the challenges of mailed questionnaire as a method of collecting data (8 marks)
- b) Eight friends take a picnic. One of them buys 8 randomly selected sandwiches from a supermarket. The manager explained that 3 out of 10 sandwiches are suitable for vegetarians
 - i) Explain with justifications on the type of probability distribution applicable in the case above (4 marks)
 - ii) Find the probability that, of the eight sandwiches, the number suitable for vegetarians
 - i) Are exactly 2 (2 marks)
 - ii) Are utmost 2 (3 marks)
 - iii) Are more than three (3 marks)

QUESTION THREE

Considering the frequency distributions of weights (in grams) in the table below,

Class	Frequency
10-20	1
20-30	2
30-40	3
40-50	5
50-60	6
60-70	4
70-80	3
80-90	1

- a) Calculate
- i) Coefficient of variation (6 marks)
 - ii) Person coefficient of skewness (6 marks)
 - iii) Kurtosis (6 marks)
- b) Based on your answers in question five (a) (ii) and (iii) above, comment on the shape of distribution. (2 marks)

QUESTION FOUR

- a) The Nielsen home technology report provided information about home technology and its usage. The following data are hours of person computer usage during one week for a sample of 50 persons

4.1	1.5	10.4	5.9	3.4	5.7	1.6	1.6	3.0	3.7	3.1	4.8	2.0	14.8	5.4	4.2
3.9	4.1	4.1	8.8	5.6	4.3	3.3	7.1	10.3	6.2	7.6	4.1	11.1	3.5	10.8	2.8
6.1	3.1														

Summarize the data by constructing the following:

- i) A frequency distribution (use a class width of three hours) (6 marks)
- ii) A frequency distribution curve (2 marks)
- iii) A histogram (5 marks)
- iv) An Ogive (5 marks)
- v) Comment on what the data indicate about personal computer usage at home (2 marks)

QUESTION FIVE

- a) Discuss briefly the main functions of statistics (5 marks)
- b) A sample of 60 ball bearings was taken from the production unit and their diameters in centimeter (cms) were measured and the following distributions was obtained

Measurements	No. of bearings
0.155-0.160	6
0.160-0.165	10
0.165-0.170	20
0.170-0.175	15
0.175-0.180	5
0.180-0.185	2

- i) Calculate the mean and standard deviation for the distribution. (6 marks)
- ii) A second sample of 10 ball was taken, given a mean diameter of 0.61 cms with standard deviation of 0.003 cms
- a) Compare the variation in diameter from the sets using coefficient of variation (3 marks)
- b) Calculate the mean and standard deviation of the combined sample of 180 ball bearing (6 marks)