



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF BUSINESS AND ECONOMICS
UNIVERSITY DRAFT-EXAMINATION FOR DIPLOMA IN BUSINESS
ADMINISTRATION 2ND YEAR 1ST SEMESTER 2024/2025 ACADEMIC YEAR
(FULL-TIME)

COURSE CODE: BBM 2216

COURSE TITLE: STATISTICS AND QUANTITATIVE METHODS IN BUSINESS

Instructions:

1. Answer **Question 1 (COMPULSORY)** and **ANY other 2** questions.
2. Candidates are advised not to write on the question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.

QUESTION 1

a) Explain the difference between the following terms;

- i) Descriptive statistics and Inferential statistics
- ii) Measure of central tendency and Measure of dispersion
- iii) Mutually exclusive events and Independent events [12 marks]

b) The data below represents ages in years of 56 members of a congregation taken randomly:-

15,18,19 12,14,12,13, 15,15,16,17,29,18,18,17,26,30,40,26

15,23,21,22,20,21,20,20,35,36,38,40,39,,41,45,49,29,19,21

35,37,49, 46, 41,42,43,44, 23,24,24, 21, 36,35,26,35,37,39

Required

- i) Using a class interval of 5, Present the above data in a frequency distribution table and compute the following;
- ii) Range
- iii) Actual mean
- iv) Standard deviation

v) Coefficient of variation [18marks]

QUESTION 2

a) Explain the meaning of the following as used in probability theory:

- i) Random experiment
- ii) Sample space
- iii) Event
- iv) Outcome

[8marks]

b) A bag contains 8 black balls and 5 white balls. If 2 balls are drawn from the bag, one at a time find the probability of drawing a black ball and a white ball;-

i) With replacement

ii) Without replacement

[12 marks]

QUESTION 3

a) Discuss five assumptions of linear regression

[10marks]

b) Calculate Karl Pearson’s coefficient of correlation for the following ages of male and female casual workers in an organization. [10 marks]

Age of males (in years): 23, 27, 28, 28,28,30,30,33,35,38

Age of females (in years): 18,20,22,27,21,29,27,29,28,29

[10 marks]

QUESTION 4

a) Discuss the importance of time series analysis in Business decision making.

[12 marks]

b) Briefly explain four components of time series

[8 marks]

QUESTION 5

a) Briefly describe five conditions that must be met for a Chi- Square analysis to be applied. [5marks]

b) During an outbreak of small pox in a Kerina town, a sample of 2000 residents was taken. It was found out that out of these, 500 had been vaccinated against the disease while the rest had not been vaccinated. The table below shows the data obtained

	ATTACKED	NOT ATTACKED	TOTAL
VACCINATED	31	469	500
NOT VACCINATED	185	1315	1500
TOTAL	216	1784	2000

Required: Using 1 degree of freedom, and 5% level of significance, test if the vaccination was effective in preventing the attack from smallpox.

[15MARKS]