JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS AND ECONOMICS

UNIVERSITY EXAMINATION FOR DIPLOMA IN BUSINESS ADMINISTRATION

2ND YEAR 1ST SEMESTER 2018/2019 ACADEMIC YEAR (PART-TIME)

COURSE CODE: BBM 2216

COURSE TITLE: STATISTICS AND QUANTITATIVE METHODS IN BUSINESS

EXAM VENUE: LR   **STREAM: (DBA)**

DATE: **EXAM SESSION:**

TIME: 1 ½ HOURS

Instructions:

1. Answer **Question ONE** (**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 ONE

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 TWO

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 THREE

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 FOUR

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 FIVE

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]