JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

THIRD YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN HORTICULTURE

2016/2017 ACADEMIC YEAR

REGULAR

COURSE CODE: SBI 3316

COURSE TITLE: BIOSTATISTICS

EXAM VENUE: STREAM: BSc. (Agricultural Education & Extension)

DATE: EXAM SESSION:

TIME: 2 HOURS

Instructions:

1. Answer ALL questions in section A and ANY other 2 Questions in section B.
2. Candidates are advised not to write on question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.

Answer ALL questions from this Section

1. Define the following terms:
   a. Probability   **(2Marks)**
   b. Variance   **(2 Marks)**
   c. Mean   **(2 Marks)**

2. Differentiate between the following
   a. Sample and population   **(3 Marks)**
   b. Inferential and descriptive statistics   **(3 Marks)**
   c. Qualitative and quantitative data   **(3 Marks)**

3. Explain the following statistical terms
   a. Standard deviation   **(3 Marks)**
   b. Discrete variable   **(3 Marks)**
   c. Measurement level   **(3 Marks)**

4. Discuss the following statistical processes:

   a. Data presentation   **(3 Marks)**
   b. Data analysis   **(3 Marks)**

SECTION B   [40 MARKS]

Answer ANY TWO questions from this section

5. The table below shows the results of a study on 102 students at JOOUST in which the AAS 3211 lecturer examined association between the absence of students and passing exams for her class during the first semester.

	Most classes attended	Few classes attended	Total
Passed Exams	33	19	52
Failed Exams	39	11	50
Total	72	30	102

   i.   Find the probability that a randomly selected student failed his/her exams. [**5 marks**]

   ii. Find the probability that a randomly selected student has passed and attended few classes   [**5 marks**]

   iii. Find the probability that a randomly selected student has passed exams **or** is always present in class   [**5 marks**]

b) Identify the following measures either as qualitative or quantitative   **[5 Marks]**

  i.   Gender of the first 1000 students admitted in Agriculture and Education course at City Campus .

  ii.   The political affiliation of thirty Members of the County Assembly of Siaya

  iii. Colour of vehicles parked in the University compound

  iv.   The ages of fifty randomly selected fashion models

  v.   Marital status of all sampled respondents in a survey study

6. The following data is time in minutes for each of two extensions officers to explain an agricultural concept to farmers on a field day.

  40 29 32 31 35 28 33 25 35 27 33 30

  a)   Draw a stem and leaf plot for the data   **[5 Marks**]

  b)   Find the following summaries of the data:

   i.   Mean,   **[2 Marks]**

   ii.   Median,   **[2 Marks]**

   iii.   Range and   **[2 Marks]**

   iv.   Interquartile range.   **[2 Marks]**

  c)   Find the variance and standard deviation of the data and explain what this value tells you   **[7 marks]**

7. The table below gives the frequency distribution of the number of bags of maize harvested each season during the past 50 seasons at Kenya seed company farms.

Number of bags	Number of days
10-12	4
13-15	12
16-18	20
19-21	14

  a) (i)Draw an appropriate graph to illustrate these data.   **[6 Marks]**

   (ii) What does it tell about the data?   **[4 Marks]**

a) The ratio of the standard deviation to the mean is called coefficient of variation, find this ratio. **[6 Marks]**

b) Outline any three measures of central tendency in statistics **[4 Marks]**