



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT  
4<sup>TH</sup> YEAR 1<sup>ST</sup> SEMESTER 2017/2018 ACADEMIC YEAR**

**REGULAR**

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**COURSE CODE: AAE 3412**

**COURSE TITLE: RESEARCH METHODS IN AGRICULTURE**

**EXAM VENUE: LR 19**

**STREAM: BSC. AGRIBUSINESS MANAGEMENT**

**DATE: 20/12/17**

**EXAM SESSION: 2.00 – 4.00PM**

**TIME: 2 HOURS**

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**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**

**SECTION A**

**[30 MARKS]**

**Answer ALL questions in this section**

**Q1.** A power generation plant has recently been installed at one of the sugar factories to produce electricity. It has been noticed that this plant emits some chemicals which are released into the rivers. It is alleged that these chemicals affect crops and the people who consume them. You are required to conduct research to shed light on these allegations

- (a) Identify and give a research problem for your study [5marks]
- (b) Give two objectives of your study [4marks]
- (c) State and explain the hypothesis for your research [4marks]
- (d) Give the justification for your research [4marks]
- (e) State the research design you would use [4marks]
- (f) (i) Explain the sampling design you would use and give the reasons why [5marks]  
(ii) Give an example of a conclusion you would make and relate it to the hypothesis and the objective of your study. [4marks]

**Section B:**

**[40marks]**

**Answer any TWO questions from this section**

- Q2.** (a) Explain the principles of experimental design [9marks]  
(b) Give the difference between the following designs [8marks]  
(i) Formal and informal experimental design  
(ii) Completely randomized and randomized design  
(c) Briefly explain the concept of time series phenomenon and some four areas where it is applied in agricultural research [3marks]
- Q3.** (a) Distinguish between the following:-  
(i) Qualitative and quantitative Research [4marks]  
(ii) Ordinal and ratio measurements [4marks]  
(iii) Validity and reliability of data [4marks]  
(b) Discuss the most common sources of error in measurement. [8marks]
- Q4.** (a) Briefly discuss the FOUR most common methods of primary data collection. [8marks]  
(b) Explain the difference between an experiment and a survey. [4marks]  
(c) Discuss the factors that should be considered in the design of an effective questionnaire. [8marks]