



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF ENGINEERING AND TECHNOLOGY

**UNIVERSITY EXAMINATIONS FOR THE DEGREE OF SCIENCE IN RENEWABLE
ENERGY TECHNOLOGY AND MANAGEMENT**

THIRD YEAR FIRST SEMESTER 2015/2016 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: TET 3318

COURSE TITLE: ENERGY AND CLIMATE CHANGE

EXAM VENUE: CR

STREAM: BSc RE TECH & MGT

DATE: 25/04/16

EXAM SESSION: 2.00-4.00PM

TIME: 2 HOURS

Instructions to candidates

The paper contains FIVE questions.

Answer question ONE and any other TWO questions

Candidates must hand in their answer booklets to the invigilator while in the examination room.

QUESTION ONE (30 MARKS)

- a. Explain what you understand by the term, “Research” describing the following; **(16 Marks)**
- i. Research characteristics
 - ii. Possible research outcomes
- b. Briefly explain the difference between “Pure Research” and “Applied Research”. **(4 Marks).**
- c. Outline the difference between a “True experimental design” and “Quasi-Experimental design”. **(10 Marks)**

QUESTION TWO (20 MARKS)

- a. Briefly describe the different types of research listed below; **(10 marks)**
- i. Descriptive research
 - ii. Exploratory research
 - iii. Correlational research
 - iv. Explanatory research
 - v. Quantitative research
- b. With reference to specific examples briefly describe the different types of sampling techniques used in research. **(10 Marks)**

QUESTION THREE (20 MARKS)

- a. Explain what you understand by “Validity of experimental results”, hence briefly discussing various variables/factors that may render the results invalid. **(12 Marks)**
- b. With reference to specific examples, briefly describe the following types of variables as applied in research. **(8 Marks)**
- i. Ratio variables
 - ii. Ordinal variables
 - iii. Interval variables
 - iv. Independent variables

QUESTION FOUR (20 MARKS)

- a. Describe the following as applied to research problem identification process.
- i. Problem audit **(3 Marks)**
 - ii. Background analysis **(3 Marks)**
 - iii. Determination of research tasks **(4 Marks)**
- b. Outline the importance of data analysis in research; hence describe various ways of quantitative data analysis (use diagrams where applicable). **(10 marks)**

QUESTION FIVE (20 MARKS)

Describe the various components of a research report mentioning their importance. **(20 Marks)**