



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2015/2016**

**THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF BACHELOR SCIENCE IN EARTH SCIENCE WITH  
INFORMATION TECHNOLOGY**

**MAIN CAMPUS**

**NGA 311: RESEARCH METHODOLOGY**

Date: 18<sup>th</sup> April, 2016

Time: 11.00 - 1.00 pm

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**INSTRUCTIONS:**

- Answer question ONE and any other TWO questions.
- Sketch maps and diagrams should be used whenever appropriate.



## NGA 311: RESEARCH METHODOLOGY

1. (a) Write short notes on:
  - (i) Ex post facto research. (3 marks)
  - (ii) Motivation in research. (4 marks)
  - (iii) Criteria of good research. (5 marks)
  - (i) Distinguish between Research method and scientific method. (8 marks)
  - (c) "The task of defining the research problem often follows a sequential pattern". Explain. (10 marks)
2. (a) Explain and illustrate the following research designs:
  - (i) Simple randomized design. (5 marks)
  - (ii) Informal experimental design. (5 marks)
  - (b) Describe research designs used in experimental hypothesis-testing research study. (10 marks)
3. (a) Describe five different types of research. (10 marks)
  - (b) Discuss the merits and demerits of:
    - (i) Rating and Ranking scales. (5 marks)
    - (ii) Summated and Cumulative scales. (5 marks)
4. Explore different methods of collecting data. (20 marks)
5. Explain different types of analysis of data and their significance. (20 marks)
6. (a) Explain the following:
  - (i) Extraneous variables. (4 marks)
  - (ii) Experimental and Control groups. (6 marks)
  - (b) The procedure of testing hypothesis requires a researcher to adopt several steps. Discuss. (10 marks)