



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**FIRST YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN CLIMATE CHANGE
AND DEVELOPMENT WITH INFORMATION TECHNOLOGY**

MAIN CAMPUS

**NCA 104: INTRODUCTION TO CLIMATE CHANGE
DYNAMICS**

Date: 9th December, 2016

Time: 3.30 - 6.30 pm

INSTRUCTIONS:

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

1. a) Define weather and climate, then list elements of weather (10 marks)
- b) Describe any **four** components of the earth's climate system (10 marks)
- c) Explain the carbon cycle (10 marks).
- 2 a) Describe the biogeochemical cycles (4 marks)
- b) Explain the links between biogeochemical cycle and the climate system (16 marks)
- 3a) Explain the internal forcing of climate. (4 Marks)
- b) Taking solar activity as an example, describe climate variability (16 marks)
4. Explain the contributions of the following external forcing to climate change
- a) Volcanic eruption (10 Marks)
- b) Land use / Surface changes (4Marks)
- 5a) Define global warming (4 Marks)
- b) Explain any **four** effects of global warming that have been observed in the recent past (16 marks).
6. Discuss the climate feedback mechanism (20 Marks)