MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2013/2014

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

(MAIN CAMPUS)

NCA 101: INTRODUCTION TO CLIMATE SCIENCE

Date: 19th November, 2013 *Time: 8.30 - 10.30 a.m.*

INSTRUCTIONS:

- **Answer Question ONE and any other TWO questions.**
- **Illustrations should be used where appropriate.**

NCA 101: INTRODUCTION TO CLIMATE SCIENCE

1 a) Define the hydrological cycle. (3marks)

b) Differentiate between the following;

i) Climate and weather (4marks)

ii) Climate science and climate change (4marks)

(iii) La Nina and El Nino (4 marks)

c) Write short notes on the cooling and warming effects of aerosols (8 marks)

d) Giving a specific example, explain the meaning of climate feedback loops. (7 marks)

2. a) Identify any five green house gases in the atmosphere (5marks)

b) Explain how the five identified green house gases are introduced into the atmosphere. (10 marks)

3. With the aid of a detailed diagram, describe the global climate system (20 marks)

4 a) Explain the significance of climate models in climate change Projections (10 marks)

b) "There is need for caution in interpretation of climate models." Justify this statement. (10 marks)

5 a) Explain the ozone-hole in the stratosphere. (10 marks)

b) Explain five indicators that give evidence the earth is warming. (10 marks)

6. Discuss the two-way feedbacks between the atmosphere and the biosphere, explaining their contributions to greenhouse gas concentrations in the atmosphere. (20 marks)