



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2015/2016

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

MAIN CAMPUS

NGA 413: CLIMATE CHANGE AND WATER RESOURCES

Date: 19th April, 2016

Time: 11.00 - 1.00 pm

INSTRUCTIONS:

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



NGA 413 – CLIMATE CHANGE AND WATER RESOURCES

1. a) Differentiate between the following;
 - i) Weather and climate 2marks
 - ii) Climate change and climate variability 2marks
 - b) Describe the sun and the energy balance as a natural forcing of the climate system. 6marks
 - c) Discuss the sources of uncertainties in the projected impacts of climate change on freshwater systems and the various ways in which they have been addressed 14marks
 - d) Explain the importance of studying climate change in hydrological and water resources studies? 6marks
2. Describe the components of the climate system 20marks
 3. Examine the past, present and future changes in global climate and their implications on global water resources 20marks
 4. Discuss the anthropogenic causes of climate change and effects on the hydrological cycle 20marks
 5. Discuss the impacts of climate change on water resources in Africa. 20marks
 6. a) Explore five types of limits in adaptation to the effects of climate change on water resources 5 marks
 - b) Discuss the strategies that can be adopted to mitigate the impacts of climate change on water resources in Kenya 15 marks