



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 412: WATER RESOURCE IN ARID AND SEMI ARID
AREAS**

Date: 21st April, 2016

Time: 2.30 - 4.30 pm

INSTRUCTIONS:

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



NGA 412: WATER RESOURCE IN ARID AND SEMI ARID AREAS

1. a. Discuss the key aridsol classifications and their importance in management of water resource in arid and semi arid zones. (10 marks)
- b. Account for the causes of aridity in Africa. (8marks)
- c. Write precise notes on the following drainage patterns;
 - i. Endoreic (4marks)
 - ii. Exoreic (4marks)
 - iii. Areic (4marks)
2. a. Discuss the risks posed by climate change to the water sector in arid regions (10 marks)
- b. Discuss land management strategies used by the pastoralist in management of ASAL regions. (10 marks)
3. a. Discuss ways in which sustainability of dryland ecosystems can be enhanced in the modern era. (12 marks)
- b. Explain the salient characteristics of Desertification. (8 marks)
4. a) Examine the strategies employed to improve access to water resources in deserts and dry lands? (14 marks)
- b. Account for the current status and trends of droughts and desertification in the world. (6 marks)
5. Examine the impacts of the following on land degradation in arid and semi arid areas.
 - a. Climate change (10 marks)
 - b. Human activities (10 marks)
6. a. Discuss the main climate types associated with arid zones. (10 marks)
- b. Examine the main water resource challenges in arid and semi arid areas of the developing countries. (10 Marks)