



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

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

(MAIN CAMPUS)

**NGA 303: WATER RESOURCES MANAGEMENT AND
DEVELOPMENT**

Date: 25th November, 2013

Time: 11.00 a.m. - 1.00 p.m.

INSTRUCTIONS:

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

NGA 303: WATER RESOURCES MANAGEMENT AND DEVELOPMENT

1. a. Discuss the relevance of community-based institutions in enhancing equitable and sustainable water resources management. (10 marks)
- b. Discuss the role of the following groups in the management of water resources in Kenya;
 - i. Water service Board (8 marks)
 - ii. Catchment Area Advisory Committee (4 marks)
 - iii. Water resources management Authority (8 marks)
2. a. Assess the importance of gender mainstreaming in water resource management in Kenya. (10 marks)
- b. Examine the elements of integrated flood management. (10 marks)
3. Explore the basic water treatment technologies that can be used to enhance accessibility to clean domestic water. (20 marks)
4. As a water resource manager, explain how you would advice the government to sustainably use and manage the newly discovered groundwater resources in the Northern Kenya. (20 marks)
- 5 a. Discuss the major components for effective water resources management. (10 marks)
- b. Explain the basic principles of water governance. (10 marks)
6. Discuss the impact of climate and land use changes on an ecosystem. (20 marks)