



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

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

(MAIN CAMPUS)

NGA 203: PHYSICAL OCEANOGRAPHY

Date: 27th November, 2013

Time: 8.30 - 10.30 a.m.

INSTRUCTIONS:

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

NGA 203: PHYSICAL OCEANOGRAPHY

1. a) Discuss Ekman velocity and transport. (8marks)
- b) Explain the relationship between salinity and dissolved oxygen levels. (8 marks)
- c) Differentiate between a spring tide and a neap tide. (4 marks)
- d) Explain the following:
 - i). Ocean mixed layer. (4 marks)
 - ii). Thermocline. (3 marks)
 - iii) Abyssal ocean. (3 marks)
2. Explain the features of ocean current wind and its effects on the Earth's climate. (20 marks)
3. Examine the external dominant forces that act on the ocean. (20 marks)
4. Discuss the methods used to study the ocean. (20 marks)
5. Analyse the atmospheric wind system in relation to the world oceans. (20 marks)
6. Discuss the global freshwater and salt budgets. (20 marks)