



MASEÑO 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 207: INTRODUCTION TO PETROLOGY

Date: 20th 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 207: INTRODUCTION TO PETROLOGY

- Q1 a) Differentiate between petrology and petrography (2marks)
- b) Explain three mechanisms involved in magma formation (6marks)
- c) Discuss plate tectonics and magma genesis (15marks)
- d) Describe the crystallization process (7marks)
- Q2 a) Explain the concept of fractionation and mineral paragenesis (4marks)
- b) Discuss igneous rock structures and textures (16marks)
- Q3 b) Discuss the factors affecting the mineral composition of a sediment (8marks)
- c) Discuss the main groups that distinguish sedimentary rocks (12marks)
- Q4 a) Explain the three agents of metamorphism (6marks)
- b) Differentiate the types of metamorphism (8marks)
- c) Discuss cataclastic metamorphism and its products (6marks)
- Q5 a) Petroleum is one of the Kenya's most important commodity. Discuss (10marks)
- b) Explain why the use of fossil fuel products such as petroleum can have a negative impact on the Earth's biosphere (10marks)
- Q6 a) Describe surface and sub surface exploration of petroleum (8marks)
- b) Account for the origin, migration and accumulation of petroleum (12marks)