MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2013/2014

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

(MAIN CAMPUS)

NGA 107: INTRODUCTION TO STRATIGRAPHY AND STRUCTURAL GEOLOGY

Date: 18th July 2014   *Time:* 8.30 – 11.30 a.m

INSTRUCTIONS:

- Answer Question ONE (1) and any other TWO (2) questions
- Illustrations should be used where appropriate

NGA 107: INTRODUCTION TO STRATIGRAPHY AND STRUCTURAL GEOLOGY

1. a) Write short notes on the following

          i)   Fluvial environment   (4 marks)
          ii)   Principle of faunal succession   (4 marks)
          iii)   Walther's law   (4 marks)

   b) Briefly explain any four factors that influence the temporal and spatial distribution of fossils in the sediment record

   (8 marks)

   c) Explain the significance of rock outcrops in stratigraphical studies

   (5 marks)

   d) Explain the principal of radiometric age dating of rocks.

   (5 marks)

2. Discuss the differences between the various types of unconformities

   (20 marks)

3. a) Examine the importance of stratigraphy in re constructing past geological environments (10 marks)

   b) Explain factors that can limit the use of fossils as time markers

   (10 marks)

4. a) Discuss the role of weathering processes in the rock cycle

   (10 marks)

   b) Explain the general characteristics that distinguish continental facies from marine deposits? (10 marks)

5. Discuss the main factors that give rise to transgressions and regressions processes and indicate how they can be differentiated in the rock record (20 marks)

6. a) Describe sedimentary structures and fabrics common in tidal environments (10 marks)

   b) Explain the use of index fossils in the correlation of sedimentary rock strata (10 marks)