



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2015/2016

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE
OF BACHELOR OF ARTS IN URBAN AND REGIONAL PLANNING
WITH INFORMATION TECHNOLOGY**

CITY CAMPUS

**PUR 122: ELEMENTS OF THE PHYSICAL AND BIOLOGICAL
ENVIRONMENT**

Date: 22nd April, 2016

Time: 9.00 - 11.00am

INSTRUCTIONS:

- **Answer Question ONE (Compulsory) and any other TWO Questions.**

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1.
 - a. The earth is both an open and closed system. Discuss. (10 Marks)
 - b. Differentiate between abiotic and biotic components of an ecosystem. (10 Marks)
 - c. The niche an organism occupies is the sum total of all the ways it utilizes the resources of its environment. Discuss this statement based on the following:
 - i. Competition. (4 Marks)
 - ii. Fundamental niche. (2 Marks)
 - iii. Realized niche. (4 Marks)
 2.
 - a. Outline 5 levels of ecological study. (10 Marks)
 - b. Distinguish between human activities modifying regional climate and those modifying global climate. (10 Marks)
 3. Discuss 4 technologies which can be used to study physical geography. (20 Marks)
 4. Using relevant examples, discuss the spatial science perspective of the physical environment based on:
 - a. Characteristics of places. (6 Marks)
 - b. Spatial distributions and spatial patterns. (8 Marks)
 - c. Spatial interaction. (6 Marks)
 5.
 - a. Distinguish between temperate forest ecosystem and a tropical rain forest. (10 Marks)
 - b. Discuss the following biogeochemical tools
 - i. Element ratios. (3 Marks)
 - ii. Mass balance. (3 Marks)
 - iii. Element cycling. (4 Marks)
 6. Write brief notes on the following types of energy:- Radiation energy , Chemical Energy, Potential Energy, Thermal Energy (20 Marks)