



## **MASENO UNIVERSITY**

### **UNIVERSITY EXAMINATIONS 2015/2016**

**FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN GEOSPATIAL INFORMATION SCIENCE  
WITH INFORMATION TECHNOLOGY**

### **CITY CAMPUS - REGULAR**

**PGS 111: INTRODUCTION TO GEOGRAPHIC INFORMATION  
SYSTEMS**

Date: 3<sup>rd</sup> December, 2015

Time: 2.00 - 4.00 pm

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#### **INSTRUCTIONS:**

- Answer question ONE and any other TWO questions.
- Sketch maps and diagrams should be used as deemed necessary.



**PGS 111: INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS.**

**Answer QUESTION 1 and any other TWO questions. (Sketch maps and diagrams should be used as deemed necessary)**

1.
  - a. Define GIS? [6 marks]
  - b. Describe five components of a functional GIS system. [15 marks]
  - c. Describe 3 components of ArcGIS software and their functions [9 marks]
2.
  - a. Define the term map. [3 marks]
  - b. Describe three (3) types of maps that can be generated using GIS. [9 marks]
  - c. Explain four (4) essential items of marginal information that a good map should comprise [8 marks]
3.
  - a. What is geographical phenomenon? [4 marks]
  - b. Describe 2 types of geographical phenomena and give example of each. [4 marks]
  - c. Explain 3 ways geographic phenomenon described in question 'b' above are represented in GIS. [12 marks]
4.
  - a. Define the term "raster" and "vector" as used in GIS [6 marks]
  - b. Using a diagram explain the difference between raster and vector data models as used in GIS. [9 marks]
  - c. How does spatial data differ from other types of data? [5 marks]
5.
  - a. Differentiate between spatial and aspatial data [5 marks]
  - b. Discuss five sources of GIS data [15 marks]
6. Citing relevant examples, discuss five ways GIS can be applied in urban management. [20 marks]