MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

FIRST YEAR SECOND SEMESTER EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN GEOSPARTIAL INFORMATION SCIENCE WITH INFORMATION TECHNOLOGY

CITY CAMPUS

PGS 111: INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

Date: 25th November, 2016   Time: 9.00 - 12.00pm

INSTRUCTIONS:

- Answer Questions ONE (Compulsory) and any other TWO.
- Sketch maps and diagrams should be used whenever necessary.

1.
    a. Describe five components of a functional GIS system.   [15marks]
    b. Explain various components of Geographic Information Science and Technologies and how they'are related.   (15 marks)

2.
    a. What does the term GIS mean   [8 marks]
    b. Briefly explain how GIS system work   [12 marks]

3.
    a. Explain various ways geographic phenomenon are represented in GIS.   [10 marks]
    b. Select the most suitable boundary type for each of the following phenomena   [10 marks]

No.	Question item	Answer
1	Kisumu county boundary	
2	Water pollution	
3	Karura forest	
4	Kisumu hotel	
5	Coast line	
6	Barometric pressure	
7	Tea plantation	
8	Lake shore	
9	River Nyando	
10	Slope of Mt. Kenya	

4.
    a. Define the term spatial autocorrelation. (4 marks)
    b. Explain the process of spatial interpolation in GIS. Give an example as to how it could be useful. (10 marks)

    c. How would you represent Kisumu hotel, Kisumu city and Kenyatta Avenue in Kisumu CBD at a scale of 1:500 and at a scale of 1:10000?   [6 marks]

5. Describe five (5) spatial data analysis functions you can perform using the GIS software.   [20 marks]

6. Discuss five areas GIS can be applied by county governments. [20 marks]