



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2015/2016**

**FOURTH YEAR SECOND SEMESTER EXAMINATION FOR THE  
DEGREE OF BACHELOR OF ARTS WITH INFORMATION  
TECHNOLOGY**

**CITY CAMPUS**

**PGS 415: GIS IN PUBLIC HEALTH**

Date: 25<sup>th</sup> April, 2016

Time: 2.00 - 4.00pm

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**INSTRUCTIONS:**

- **Answer Question ONE and any other TWO Questions.**

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**Question 1**

- a) Identify the key spatial questions in public health and outline how GIS can be used in answering them. **[15 marks]**
- b) Briefly discuss the relevance of community health surveillance systems. **[5 marks]**
- c) Identify and discuss the key principles of resource allocation in healthcare from a socio-spatial perspective. **[10 marks]**

**Question 2**

Examine the use of central place hierarchies in analyzing the range of facilities within the Kenyan healthcare system. **[20 marks]**

**Question 3**

You have been hired to build a health geo-information infrastructure for Kisumu County. Identify and discuss the key components/requirements that you would include in your design. **[20 marks]**

**Question 4**

Discuss the role of real-time GIS in monitoring epidemics and other public health emergencies common in Kenya. **[20 marks]**

**Question 5**

Identify and discuss the main challenges of using GIS in public health practice in Kenya. **[20 marks]**

**Question 6**

Discuss the following concept pairs as employed in public health research.

- i. Spatial vs. social accessibility
- ii. Geography of disease vs. geography of healthcare systems
- iii. Real time vs. batch processing
- iv. Personal vs. public health **[20 marks]**