JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2012/2013
2ND YEAR 1ST SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMMUNITY HEALTH AND DEVELOPMENT & BACHELOR OF SCIENCE IN PUBLIC HEALTH
(KISII LEARNING CENTRE)

COURSE CODE: PSP 3214

COURSE TITLE: GEOGRAPHIC INFORMATION SYSTEM

DATE: 15/4/2013 **TIME: 14.00-16.00PM**

DURATION: 2 HOURS

INSTRUCTIONS

1. This paper contains TWO sections.
2. Answer ALL questions in section A (Compulsory) and ANY other Two questions in section B.
3. Write all answers in the booklet provided.

SECTION A: answer ALL questions in this section (3 Marks each).

1. Describe geographical objects
2. Examine three components for analyzing aerial photographs for use in GIS
3. What are tuples and attributes in relational data models?
4. Explain the methods of data measurements.
5. Analyze three ways how the reduction of scale affects map visualization
6. Explain the types of visual variables used in point data
7. Describe space segment in global positioning system (GPS)
8. Evaluate the methods of locating features in maps
9. In An aircraft flying at a height of 2500m above the train which is 500m vertical aerial photographs were taken with a camera 152mm focal length. Calculate the scale of the aerial photograph.
10. A road junction is identified on a map 4cm apart. The same junctions are identified on another map at a scale of 1:40 000 8cm apart. Calculate the scale of the first map and determine the one with a larger scale

SECTION B

Answer any TWO questions from this section (20 marks each)

1. Design a relational data base for a health centre to assist in tracking the attendance of children at the child clinic. Develop 3 tables imagining what the tables should contain to be able to effectively monitor the children (20 marks)
2. (a) Describe the qualities of a good GIS data base (10 marks)
   (b) Evaluate any three data sources used in GIS (10 marks)

3. In designing an environmental health project on water borne disease GIS was applied. Explain the merits and demerits of applying this tool (20 marks)

4. A raster map was constructed in GIS
   a. Describe the structures of the geographical phenomena represented and data input methods (5 marks)
   b. explain the influence of resolution on this raster map (5 marks)
   c. compare rater and vector data in representation on maps (10 marks)