JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

PUBLIC HEALTH/COMMUNITY HEALTH AND DEVELOPMENT

2nd YEAR 1ST SEMESTER 2018/2019 ACADEMIC YEAR

KISUMU CAMPUS

COURSE CODE:	**PSP 3214**
COURSE TITLE:	**GEOGRAPHICAL INFORMATION SYSTEM**
EXAM VENUE:	**STREAM: BSc Public/ Comm. Hlth & Dev**
DATE:	**EXAM SESSION:**

TIME: 2.00 HOURS

Instructions:

1. **Answer all the questions in Section A and 2 questions in Section B.**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A

Answer all the questions in Section A (30MARKS)

a) Define Geographic Information System (GIS) (2mks)

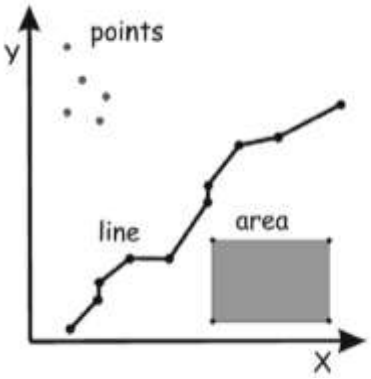
b) What is the relationship between Remote Sensing and GIS? (2mks)

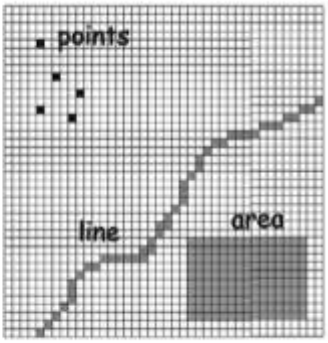
c) List five sources of GIS data. (5mks)

d) A sodium vapor lamp produces light of energy $3.36x10^{-19}$, what is the wavelength of its waves? Take Plank Constant h = 6.626×10^{-34}J/s Speed of Light c = 3.0×10^{8} (4mks)

e) As a Community or Public Health officer, list four applications of Geographic Information System in your profession. (4mks)

f) Study the figures A and B below and answer the following questions.



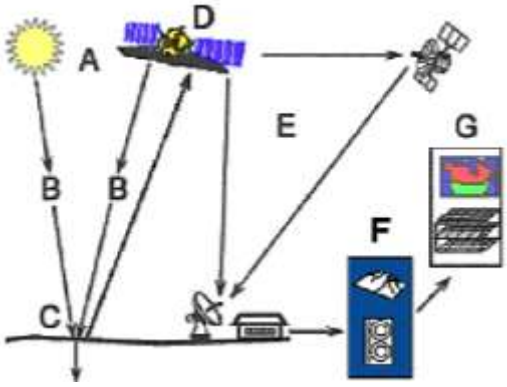


A **B**

i. Which types of spatial data are represented by A and B above? (2mks)

ii. Highlight two advantages and two disadvantages of each spatial data type in question (i) above. (4mks)

g) The figure below shows the process of remote sensing and its components. What do A, C, D and G represent? (4mks)



h) List factors that determine how good a GIS data is. (3mks)

SECTION B 40 (MARKS)

Answer any Two questions in this Section (Each Question 20 MKS).

QUESTION TWO (20 MARKS)

a) Briefly discuss the five components of GIS. (10mks)
b) Describe the different elements of image interpretation? (10mks)

QUESTION THREE (20 MARKS)

a) Discuss the two categories of image classifications. (6mks)
b) What are the components of spatial references? (4mks)
c) Describe any five angular parameters projection of satellite images. (10mks)

QUESTION FOUR (20 MARKS)

a) Explain the major steps in GIS process starting from data collection. (8mks)
b) What is GIS software? Briefly explain what it is composed of. (4mks)
c) Data in remote sensing and GIS can either be primary or secondary. Describe what the two sets mean and give examples in each. (8mks)

QUESTION FIVE (20 MARKS)

a) Describe five applications of GIS (10marks)
b) Describe the different ways Energy Interact with the atmosphere (10marks)