



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 2017/2018 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

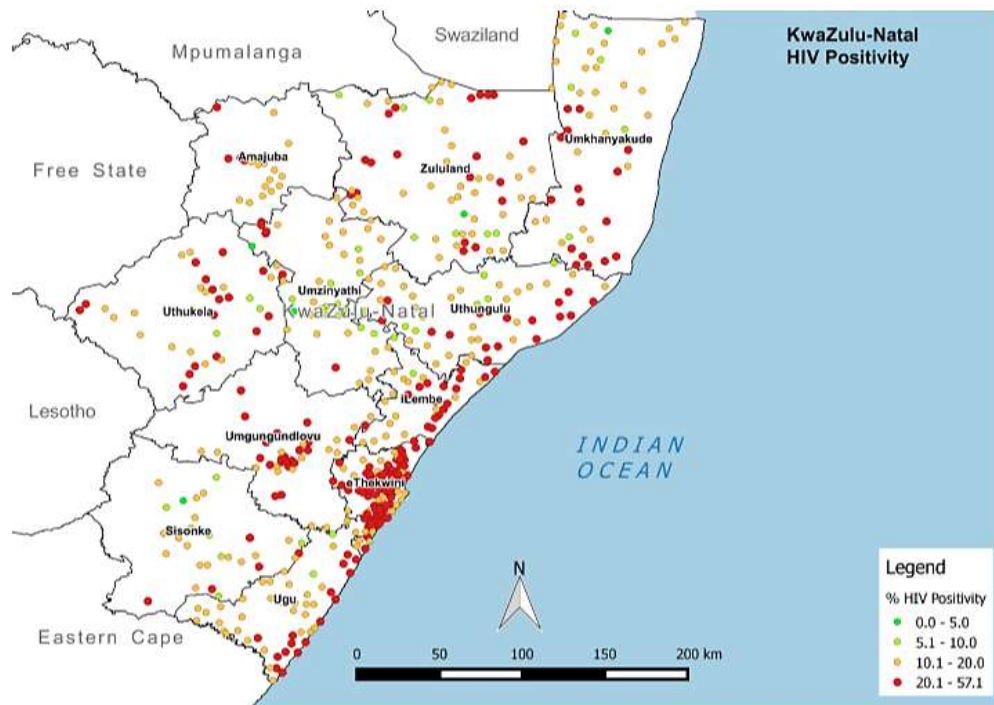
Instructions:

- 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 the following
- i) Geographic Information System (GIS) (2mks)
 - ii) Remote Sensing (2mks)
- b) What is the relationship between Remote Sensing and GIS? (2mks)
- c) Study the figure below of HIV Positivity in Kwa Zulu area. How was the mapping done using GIS tool? (3mks)



- d) List five sources of GIS data. (5mks)
- e) Briefly describe any two types of map projections. (4mks)
- f) As a Community or Public Health officer, list four applications of Geographic Information System in your profession. (4mks)
- g) Briefly explain the following
- i. Digital Elevation Models (4mks)
 - ii. GIS Data Integration (4mks)
- h) State two limitations of GIS models (2mks)
- i) What are the two types of Sensors used in Remote Sensing? (2mks)

SECTION B 40 (MARKS)

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

QUESTION TWO (20 MARKS)

- a) Describe six applications of GIS (12marks)
- b) Describe the different ways Energy Interact with the atmosphere (8marks)

QUESTION THREE (20 MARKS)

- a) Highlight any two functions of digital processing and analysis. (2mks)
- b) Briefly discuss the four components of GIS. (8mks)
- c) Describe the different elements of image interpretation? (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) 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)