COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

NANR304: GEOGRAPHICAL INFORMATION SYSTEMS

END OF SECOND SEMESTER EXAMINATIONS _JANUARY/ JUNE 2023

LECTURER: MS. B. BOLO

DATE: 19 APRIL 2023

TIME 0900 HRS-1200 HRS

DURATION: 3 HRS

INSTRUCTIONS

Do NOT write your name on the answer sheet.

Answer (fully) questions.

Begin your answer for each question on a new page.

Each full question carries 100 marks.

Your full answer should be between 10- and 15-pages Font: Times New Roman, Font size 12, Line space:2.0.

Credit is given for neat, well-written and lucid work.

SECTION A [COMPULSARY]

Section A: [50 MARKS]

1. Discuss in details the difference between Geographical Information System (GIS) open source software and commercial software. Give examples for each. (**6 Marks).**
2. Explain in details why GIS is unique? **(5 Marks)**
3. What is the difference between latitudes and Longitudes geographic coordinates **(4 Marks)**
4. In GIS, a raster data and vector data are presented in different format? Describe raster and vector data formats in details. **(10 Marks).**

5. GIS has experienced a huge development since its early days, with the popularization of GIS technologies integrated with other disciplines such as natural resources, explain in details with examples its use for monitoring and management of natural resources **(25 Marks).**

SECTION B [CHOOSE TWO QUESTIONS]

Section B: [50 MARKS]

1. Explain three main types of map projections, illustrate in diagrams **(25 marks).**
2. Even with the increasing availability of digital sources, why might one still consider using a GIS? **(25 Marks)**
3. What disciplines and applications have had the greatest influence on the development of GIS technologies? **(25 Marks)**

4. Assume that the manager of Natural Resources and Management Department where you are employed frequently heard the term GIS. He/She knew you studied GIS at Africa University and ask you to explain to the team and gave you an assignment to implement the system. What is your answer and how would you go about implementing the system? **(25 Marks).**