

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND SEMESTER 2023/2024 ACADEMIC YEAR

**FIRST YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF EDUCATION (SCIENCE/ARTS)**

**GEOG 128: CARTOGRAPHY, MAP WORK AND LAND
SURVEYING**

STREAM: R

TIME: 3 HRS

DAY: FRIDAY [8.30 – 11.30 A.M]

DATE: 19/04/2024

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.



INSTRUCTIONS

- i) Answer question **ONE** and any other **TWO** questions.
- ii) Sketch maps and diagrams should be used whenever they serve to illustrate an answer.

QUESTION ONE (Compulsory - 30 MARKS)

- a) Write short notes to explain the following terms:
 - i) Land surveying (2 Marks)
 - ii) Air surveying (2 Marks)
 - iii) Marginal information on a map (2 Marks)
 - iv) Fiducial marks (2 Marks)
 - v) Field completion in cartographic mapping (2 Marks)

- b) Provided is a topographical map of Kendu Bay, sheet number 116/3, edition 5-SK, series Y731 at a scale of 1:50,000. Use it to answer the below questions.
 - i) By giving names and the corresponding sheet numbers, list all maps which neighbours the Kendu Bay map provided (4 Marks)
 - ii) Giving relevant examples from the map, examine any TWO ways used to represent elevations of points and lines respectively (4 Marks)
 - iii) Citing relevant evidence from the map, describe relief around point grid referenced 9148 (4 Marks)
 - iv) Considering the point where River Nyadunga enters Lake Victoria (At Osodo Bay), sketch its drainage basin on the tracing paper provide and draw all its tributaries (6 Marks)
 - v) Compute the approximate area of the drainage basin of River Nyadunga delineated in question 1 (b) (iv) above (2 Marks)

QUESTION TWO (20 MARKS)

- a) Define map scale (1 Mark)
- b) Explain the **THREE** classification of maps according to their scales (9 Marks)
- c) Assume that you have been given a map without scale indication. The map is of great importance in your study and you would wish to re-establish its scale. Explain ways through which you can re-establish the missing map scale (10 Marks)

QUESTION THREE (20 MARKS)

Differentiate between the following:

- i) Map legend and index to adjoining sheets (4 Marks)
- ii) Exposure station and flight path (4 Marks)
- iii) Map enlargement and map reduction (4 Marks)
- iv) Visual variables and map compilation (4 Marks)
- v) Geodetic surveying and plane surveying (4 Marks)

QUESTION FOUR (20 MARKS)

- a) Examine the concept of map generalization and the cartographic techniques used to achieved it (10 Marks)
- b) Giving examples for each, differentiate between quantitative and qualitative mapping (10 Marks)

QUESTION FIVE (20 MARKS)

- a) Discuss any **FIVE** main reasons for carrying out land surveying in Kenyan context (10 Marks)
- b) Describe any **FIVE** marginal information on an aerial photograph (10 Marks)

