



UNIVERSITY EXAMINATIONS

SECOND SEMESTER 2023/2024 ACADEMIC YEAR

**SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN GEOGRAPHY**

GEOG 224: GIS AND RESOURCE MANAGEMENT

STREAM: R

TIME: 2 HRS

DAY: WEDNESDAY [8.30 – 10.30 A.M] DATE: 17/04/2024

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

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INSTRUCTIONS TO CANDIDATES

- i) Answer **QUESTION ONE** and **ANY OTHER TWO** Questions.
- ii) Maps, sketches, diagrams and examples should be used where they serve to illustrate the answers.

QUESTION ONE (Compulsory) (30 MARKS)

- a) Explain the following terms as used in GIS:
 - i) Spatial thinking (3 Marks)
 - ii) Spatial analysis (3 Marks)
 - iii) Interpolation (3 Marks)
 - iv) Spatial overlay (3 Marks)
- b) Using appropriate examples, explain the major types of spatial data types in Geographical Information System (10 Marks)
- c) Explain any **FOUR** skills used in spatial thinking (8 Marks)

QUESTION TWO (20 MARKS)

Discuss any **FOUR** approaches in resource management and relate each to GIS (20 Marks)

QUESTION THREE (20 MARKS)

Discuss any **FOUR** advantages of using GIS in spatial planning (20 Marks)

QUESTION FOUR (20 MARKS)

Briefly discuss the following terms and phrases as used in GIS:

- a) Surface modelling (5 Marks)
- b) Digital Elevation Model (DEM) (5 Marks)
- c) Pixels (5 Marks)
- d) Inverse Distance Weighted (IDW) (5 Marks)

QUESTION FIVE (20 MARKS)

Compare and contrast raster GIS data model and vector GIS data model (20 Marks)