NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

DEPARTMENT OF LAND AND SPATIAL SCIENCES

QUALIFICATION: BACHELOR OF GEOINFORMATION TECHNOLOGY	
QUALIFICATION CODE: 07BGEI	**QUALIFICATION LEVEL:** 7
COURSE CODE: GMN621S	**COURSE NAME:** GEOINFORMATION MANAGEMENT
SESSION: JUNE 2025	**PAPER:** THEORY
DURATION: 3 HOURS	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER:	Ms Ivonne Makando
MODERATOR:	Prof Oluibukun Ajayi

THIS QUESTION PAPER CONSISTS OF (3) PAGES
(Excluding this front page)

INSTRUCTIONS

1. Write clearly and neatly
2. **Answer ALL the questions.**
3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. Examination paper.
2. Examination script.
3. Calculator, ruler, pencils, eraser

Question 1

1.1. Define Geoinformation Management. (2)

1.2. With an example, differentiate between data and information. (2)

1.3. Explain the sequence of a LogFrame. How does the flow from the core problem to the Project Planning Matrix (PPM) contribute to effective project planning? (4)

1.4. What is the purpose of a SWOT analysis in project planning? Briefly explain the four elements of a SWOT analysis. (6)

1.5. Given the following project scenario, create a Problem Tree and an Objective Tree for the project.

Scenario:
A community development project aiming to improve access to clean drinking water in a rural area. (8)

[22]

Question 2

2.1. Briefly explain why it is important to define the strategic purpose during the first step of a GIS planning process. Include two potential consequences of skipping this step. (4)

2.2. Highlight and briefly explain the importance of the last three steps in the GIS planning process. (6)

2.3. Highlight and briefly explain any two data characteristics that influence how a geoinformation system is designed. (4)

2.4. Based on the Statistics Act, No. 9 of 2011, outline any four key responsibilities of the Namibia Statistics Agency (NSA) related to the development and management of the NSDI. (4)

2.5. List and briefly describe the four core components of a Spatial Data Infrastructure (SDI). Provide one example or role for each. (8)

[26]

Question 3

3.1. Explain the difference between accuracy and precision with examples. (4)

3.2. Define scale and explain how it affects spatial resolution. (3)

3.3. Explain the difference between vector and raster data models in GIS. Provide one example application where each would be most suitable. (4)

3.4. Describe the steps required to convert from one PCS to another. (6)

3.5. What are the potential consequences of using incompatible map projections? (3)

[20]

Question 4

4.1. A river is 4.2 cm long on a map at 1:250,000. Calculate its actual length in km. (6)

4.2. A 10 x 20 m house appears 2 x 4 cm on a map. What is the map scale? (6)

4.3. What is the minimum area (in ha) that can be displayed on:
a) a map with scale 1:25,000
b) a map with scale 1:250,000
(Assume polygon size is minimum 5 mm × 5 mm) (8)

4.4. Describe spatial, spectral, radiometric, and temporal resolution in remote sensing. Why does increasing resolution affect storage? (6)

4.5. Name and briefly describe two types of logical data models used in GIS. Provide one key advantage for each. (6)

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