



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT**

**DEPARTMENT OF LAND AND SPATIAL SCIENCES**

<b>QUALIFICATION:</b> BACHELOR OF GEOINFORMATION TECHNOLOGY	
<b>QUALIFICATION CODE:</b> 07BGEI	<b>QUALIFICATION LEVEL:</b> 7
<b>COURSE CODE:</b> GDG621S	<b>COURSE NAME:</b> GEODEMOGRAPHICS
<b>SESSION:</b> JUNE 2025	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER:</b>	Ms Ivonne Makando
<b>MODERATOR:</b>	Ms Celeste Espach

**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. Explain the importance of geodemographic cluster segmentation. How does it benefit businesses and government services? (4)

1.2. **RStudio Basics**

a) Write an R command on how you would create a data frame with two columns: "Region" (values: "Khomas", "Oshana", "Erongo", "Zambezi") and "Population" (values: 1000, 2500, 1800, 2200). (2)

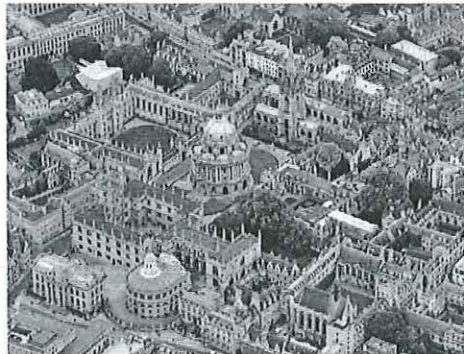
b) Write an R command to calculate the mean population from the data frame you created. (2)

c) Write an R command to find the median population from the data frame. (2)

1.3. State three characteristics of each of these settlements based on neighbourhood classifications methods. (6)



A.



B.

1.5. Describe two geographic technologies or methods used to enhance geodemographic data in areas where reliable census data is lacking. (4)

[20]

**Question 2**

- 2.1. Explain the importance of geodemographic cluster segmentation. How does it benefit businesses and government services? (6)
- 2.2. Discuss one advantage and one disadvantage of using GPS technology in geodemographic fieldwork. (4)
- 2.3. Explain the importance of defining neighbourhood units and inner characteristics in geodemographic studies. (6)
- 2.4. Outline the steps involved in building a geodemographic classification system from census data. (5)
- 2.5. What are two reasons why census-based geodemographic systems may differ between developed and developing countries? (4)

**[25]**

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**Question 3**

- 3.1. What are two key preparatory steps required before conducting field-based geodemographic data collection? (4)
- 3.2. Describe three spatial factors that influence retail location strategy. (6)

**3.3. Scenario:**

A retail pharmacy chain in Namibia wants to expand its services beyond Windhoek into smaller towns and rural areas. The company has access to demographic and health data, including poverty rates, education levels, access to services, and mobile coverage. It wants to use a geodemographic approach to:

- Select optimal store locations,
- Understand the needs of different communities, and
- Support the Ministry of Health and Social Services (MoHSS) by improving medicine accessibility.

As a geodemographic consultant, you are asked to prepare a brief strategy using geodemographic principles.

**Question:**

Using the scenario above, explain how geodemographic methods and data (including census, remote sensing, and deprivation indicators) can be used to:

- a) Segment and profile communities.
- b) Identify optimal store locations.
- c) Support the Ministry of Health and Social Services' equitable medicine distribution.
- d) Discuss two limitations of relying only on census data for this purpose. (20)

**[30]**

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**Question 4**

- 4.1. What is Body Mass Index (BMI) and why is it considered a direct measure of deprivation? Mention one limitation. (5)
- 4.2. Define inequality. What does a high Gini coefficient indicate about a country's economic structure? (4)
- 4.3. List and describe any four domains of the Multiple Deprivation Index (MDI) used in Namibia. (8)
- 4.4. Describe trade area analysis. Compare the three theoretical models used to approximate customer patronage. (8)

**[25]**