



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF ENGINEERING AND SPATIAL SCIENCES

DEPARTMENT OF ARCHITECTURE AND SPATIAL SCIENCES

QUALIFICATION: BACHELOR OF GEOINFORMATION TECHNOLOGY	
QUALIFICATION CODE: 07BGEI	LEVEL: 7
COURSE CODE: GDG621S	COURSE NAME: GEODEMOGRAPHICS
SESSION: JUNE 2022	PAPER: 1ST OPPORTUNITY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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MODERATOR:	Ms Celeste Espach

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number the answers clearly.

PERMISSIBLE MATERIALS

Calculator, ruler, pencil and eraser.

THIS QUESTION PAPER CONSISTS OF 6 PAGES (Including this front page)

Question 1

Please explain the meaning of the following terms in the field of Geodemographics:

- 1.1 Fuzzy Logic (3)
- 1.2 Ecological fallacy (3)
- 1.3 Administrative Register (3)
- 1.4 Geocoding (2)
- 1.5 Deprivation (2)
- [13]**
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Question 2

- 2.1 List the three factors which contributed to the development and growth of geodemographics. (3)
- 2.2 Why is Geodemographics an important discipline nowadays? Mention three reasons. (3)
- [6]**
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Question 3

- 3.1 Define the concept of neighbourhood in the context of geodemographics. (3)
- 3.2 There are two main categories of elements that need to be considered when identifying a neighbourhood unit. List and describe each of them. (8)
- [11]**
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Question 4

- 4.1 Define Census. (4)
- 4.2 List and briefly describe three typical limitations of census data for its use in geodemographics. (6)
- 4.3 List and briefly describe the typical phases of a traditional census in Africa. (4)

[14]

Question 5

- 5.1 What is the Huff Model? (3)
- 5.2 Using the Huff Model formula and using the information displayed in Figure 1, calculate:
 - a) The Probability of a customer in Pixel 1 to buy in Marua Mall (2 marks).
 - b) The Probability of a customer in Pixel 2 to buy in Grove mall (2 marks).
 - c) The Probability of a customer in Pixel 2 to buy in Wernhil Park (2 marks).

Assume that the Attractiveness and Distance have the same weight in your empirical model. (6)

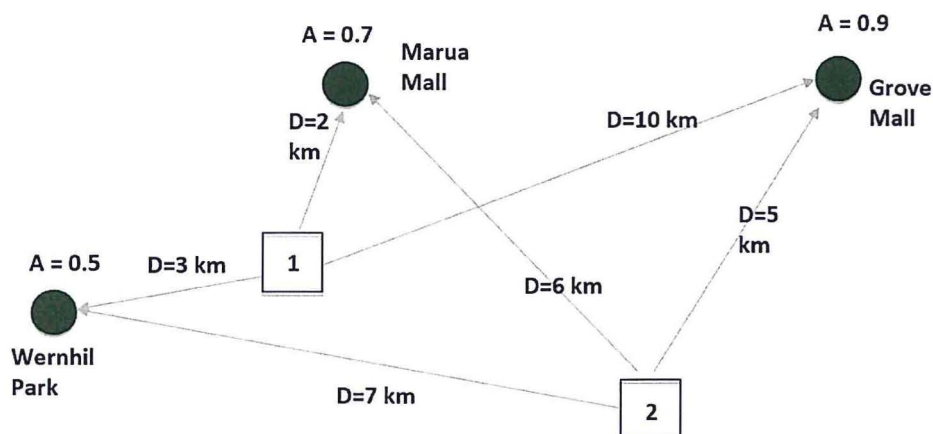


Figure 1

[9]

Question 6

Answer the following questions regarding catchment profiling methods:

6.1 Define catchment profiling. (3)

6.2 Define catchment area. (2)

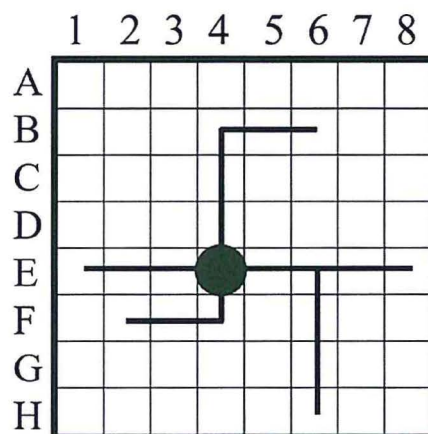
6.3 There are three different ways of devising a catchment around a particular store or outlet. List and briefly explain each of them. (3)

6.4 You want to estimate the catchment area of a store according to the maximum permitted drive time to the store. Identify by their Row-Column (E.g. A-3) codes, those pixels belonging to the catchment area of the central store assuming:

- that each pixel represents 20 km x 20 km,
- the average velocity for all the roads is 40 km/h, and
- the maximum allowed travel time from any location to the store is 1 h.

(6)

Justify your answer with calculations.



[14]

Question 7

- 7.1 List and briefly describe the different approaches to measure Poverty, Wealth and Deprivation as covered during the Geodemographics course. Write down the abbreviations of these approaches and what these abbreviations stand for. (8)
- 7.2 What is the Gini coefficient? Define it in detail and explain what it measures. (4)
- 7.3 What is the approximated value of the Gini coefficient in Namibia? How do you interpret this result? (2)

[14]

Question 8

- 8.1 List the ten topics that were covered by the Namibian 2011 Census. (10)
- 8.2 Define Dwelling Frame within the context of the Namibian Census. (4)
- 8.3 Which are the main purposes for the development of a Dwelling Frame? Mention at least two. (2)
- 8.4 Cite three technologies which were used to create the dwelling frame in Namibia (3)

[19]
