



GWANDA STATE UNIVERSITY

FACULTY OF NATURAL RESOURCES MANAGEMENT & AGRICULTURE

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL SCIENCE

TECHNIQUES IN GEOGRAPHY AND ENVIRONMENTAL SCIENCE

NGE 1102

Main Examination Paper

September 2024

This examination paper consists of 2 pages

Time Allowed: 3 hours

Examiner's Name: Mr. T. Musisi

INSTRUCTIONS

1. Answer any **FOUR** questions
2. Each question carries 25 marks.
3. Credit will be given to answers that are clear, illustrated, concise, and grammatically well-constructed.

1. Examine any three map projections giving the advantages and disadvantages of using them. [25]

2 a) Discuss the advantages and disadvantages of maps as methods of representing spatial information. [16]

b) i) Distinguish between non quantitative and quantitative maps. [4]

ii) Discuss the steps you would undertake to produce a dot map. [5]

3 a) Explore the following concepts with the aid of illustrations.

i) Ogive. [2]

ii) Lorenz curve. [2]

iii) Scatter graph. [2]

b) Table 1 shows production figures for selected crops grown in Zimbabwe (in tonnes) of selected crops in Zimbabwe (1996 – 1999)

CROP	1996	1997	1998	1999
Maize	687 000	1 397 400	775 900	932 501
Groundnuts	72 750	142 800	54 600	70 612
Cotton	161 925	191 450	174 900	148 537
Sorghum	86 200	112 888	54 000	41 373
Mhunga	73 800	67 935	29 750	19 177

i) Identify the method you would use to present the data in the table. [1]

ii) Draw the graph. [5]

iii) Justify the selection of the method. [7]

iv) Explain the shortcomings of the method you used in (i.) [6]

4. Some geographers argue that gravity models in transport network analysis are based on crude analogy with Newton's law of gravity, and are therefore a poor predictive tool. Critically evaluate the strengths and weaknesses of gravity models. [25]

5 a) Describe any two methods of representing altitude and relief on topographical maps, giving the advantages and disadvantages of using them. [15]

b) i) Describe the type of data that can be represented by isoline maps. [4]

ii) What are the advantages and disadvantages of using isoline maps [6]

6 a) Explain the following terms:

i) Magnetic North. [3]

ii) Quartile deviation. [4]

iii) Skewness. [3]

b) The statistical figures below show the monthly incomes of 20 workers in a supermarket

275 170 520 390 300 520 309 250 165 400

350 350 500 420 170 170 520 460 390 350

Using the data above, define and calculate the following

i) Median and Mean [6]

ii) Mode [4]

iii) Mean deviation [5]

THE END