



GWANDA STATE UNIVERSITY

**FACULTY OF NATURAL RESOURCES MANAGEMENT AND AGRICULTURE
DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL SCIENCE**

RESEARCH METHODS IN GEOGRAPHY AND ENVIRONMENTAL SCIENCE

NGE2102

Final Examination Paper

December 2024

This examination paper consists of 2 pages

Time Allowed: 3 hours

Examiner's Name: Mr. S. Zhou

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. You have been engaged to undertake a study on the environmental and health impacts of gold panning in Insiza district. Design a research proposal for your study. Your proposal should include all the core components of a proposal. [25]
2. An interview is a better data-gathering instrument than a questionnaire. Discuss. [25]
3. Discuss the value of employing qualitative and quantitative research approaches in a research problem of your choice. [25]
4. a. Distinguish between the terms validity and reliability in research. [12]
b. Explain how you would ensure that data collected for a research project is valid and reliable. [13]
5. Examine the importance of ethical considerations in geography and environmental science studies. [25]
6. a). The number of students admitted to various departments at GSU in the 2023 academic year was recorded. The number of students admitted was classified by gender.

Table 1

Department	Male	Female
Geography and Environmental Science	12	6
Mining Engineering	22	19
Metallurgical Engineering	20	20
Accounting	10	15
Surveying and Geomatics	6	6
Marketing	8	12

Represent this data on a:

- i. Compound bar graph. [5]
 - ii. Multiple bar graph. [5]
- b. A geographer believes that the time spent studying contributes towards the final score. He picks a sample of ten students and tabulates the information as follows:

Student	A	B	C	D	E	F	G	H	I	J
Hours Spent Studying	30	16	20	22	16	15	21	13	15	12
Final Score	40	28	28	14	20	20	22	10	16	16

- i. Apply a suitable quantitative analysis technique to determine the relationship between Hours Spent Studying and Final Score. Provide relevant calculations and explain your findings. [15]