



# **GWANDA STATE UNIVERSITY**

**FACULTY OF ENGINEERING AND ENVIRONMENT**

**DEPARTMENT OF GEOMATICS AND SURVEYING**

**RESEARCH METHODS FOR ENGINEERS**

**ESG 5105**

**Final Examination Paper**

**September 2023**

This examination paper consists of 2 pages

**Time Allowed: 3 hours**

**Total Marks: 100**

**Examiner's Name: Dr. L. Makwati**

## **INSTRUCTIONS**

**Answer four questions of your choice.**

### **Question 1**

Review of Literature is an End to Itself. Validate this statement (25)

### **Question 2**

Describe a typical Research Report and why is it important to Geomatics and surveying. (25)

### **Question 3**

Discuss how research designs differ in terms of the relationship between the researcher and its subjects. (25)

### **Question 4**

Name four types of sampling methods in quantitative research, and provide a descriptive example of instances in which each method may be used. Demonstrate what they have to offer in terms of representativity and generalization (25).

### **Question 5**

Discuss the importance of using software to collect and collate data in this scientific and technological age for surveyors. (25)

### **Question 6**

Locate a research paradigm and justify why its applicable to Engineers. (25)