



**Africa University**

**College of Health Agriculture and Natural Science**

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**MAIN PAPER**

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**COURSE:           BIOSTATISTICS**

**CODE:             MERM500**

**DATE:             APRIL 2023**

**DURATION:       THREE (3) HOURS**

**INSTRUCTIONS TO CANDIDATES**

**INSTRUCTION**

Answer All Questions from Section A  
And Answer Three Questions from Section B

**SECTION A: Answer ALL questions.**

**Question 1**

For the following:

1. What is research and its notable characteristics [6]
2. What is statistics [6]
3. What is variable? [2]
4. Write four main components of research proposal [4]  
When do we resort to the use of questionnaire as research instrument? [2]
5. Explain the two types of Questionnaire format briefly [5]
6. Highlight the possible pitfalls in questionnaire construction [4]
7. Discuss the concept of qualitative and quantitative approaches to research. Highlight their merits. [6]
8. Enumerate the steps that can reduce difficulties in problem identification [5]

**SECTION B:**

1; Give a vivid description of

2. Discuss the concept of  
it is important [20]

2. Answer the following sections as one question

- a. What is variable? [4]
  - b. What do you understand by the term range [4]
  - c. What is standard deviation and how do you calculate it [4]
  - d. What is sample size [4]
  - e. What do you understand by the term parameter [4]
- 3.
- a. Write four main components of research proposal [5]
  - b. When do we resort to the use of questionnaire as research instrument? [5]

- c. Explain the two types of Questionnaire format briefly [5]
- d. Highlight the possible pitfalls in questionnaire construction [5]
- 4. Using the following data set
  - a. A national random sample 29, 26, 13, 23, 23, 25, 17, 22, 17, 19, 12, 26, 30, 30, 18, 14, 12, 26, 17.
  - b. Calculate the sample mean, median, variance and standard deviation [20]
- 5. Outline and briefly discuss the principles involved in experimental design [10]
- 6. Discuss the different sampling methods and understand the purpose and importance of sampling and the advantages made possible by sampling

**END OF QUESTION PAPER!!!**