

DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING

36

SUPPLEMENTARY EXAMINATION PAPER

JULY 2016

B.SC., B.A., BASS & B.ED

**TITLE OF PAPER:** STATISTICAL GEOGRAPHY

**COURSE NUMBER:** GEP 223

**TIME ALLOWED:** THREE (3) HOURS

**INSTRUCTIONS:**

1. ANSWER THREE (3) QUESTIONS
2. QUESTION 1 IS COMPULSORY.
3. CHOOSE TWO (2) QUESTIONS FROM SECTION B
4. WHERE APPROPRIATE ILLUSTRATE YOUR ANSWERS WITH EXAMPLES.
5. ALL WORKING AND/OR CALCULATIONS MUST BE SHOWN.
6. YOU WILL BE PROVIDED WITH GRPAH PAPERS AND TABLES FOR CRITICAL VALUÉS AND SIGNIFICANT LEVELS.

**ALLOCATION OF MARKS:** QUESTION ONE (1) CARRIES 40 MARKS WHILE THE REST CARRY 30 MARKS EACH

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**THE INVIGILATOR**

**SECTION A: COMPULSORY****QUESTION 1**

When used with three different lubricants, a specific group of machine parts show the following weight losses (in milligrams) due to friction:

<b>Lubricant X:</b>	10	13	12	10	14	8	12	13			
<b>Lubricant Y:</b>	9	8	12	9	8	11	7	6	8	11	9
<b>Lubricant Z:</b>	6	7	7	5	9	8	4	10			

Assuming that these data constitute random samples from three normal populations with the same standard deviation, perform an analysis of variance to decide whether the differences among the three sample means can be attributed to chance. Use the 0.01 level of significance.

**(40 Marks)**

**SECTION B: ANSWER ANY TWO QUESTIONS****QUESTION 2**

- (a) Identify the main sources of information generally available to a geographer conducting research.  
(10 marks)
- (b) With reference to the situation in developing countries, discuss the availability and quality of the sources identified in (a) above.  
(20 marks)

**(30 Marks)**

**QUESTION 3**

Table 2 shows the ages of sampled heads of households at Ngwane Park a suburb of Manzini urban

alternative hypothesis ( $H_1$ ) states that: There is a difference between the mean ages of the urban and rural settlement household heads. The significant level was set at 0.05.

**Table 2 Ages of sampled heads of households at Ngwane Park and Mkhulamini**

Ngwane Park x	Mkhulamini y
57	38
43	37
38	46
49	43
47	33
53	34
59	41
49	45
38	40
59	32

Source: Hypothetical

- a) Calculate the Students' t-test to establish the difference between the two samples  
(25 marks)
  - b) Establish whether you would accept or reject  $H_0$  based on the results in (a)  
(5marks)
- (30 Marks)**

#### QUESTION 4

Identify three main sampling techniques and explain how each one of them is applied.

**(30 Marks)**

#### QUESTION 5

- a) Identify three (3) geographical problems where participant observation would be a suitable technique for data collection. (18 marks)
- b) Discuss the disadvantages of using participant observation in a research. (12 marks)