UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION JULY 2006

B.SC, B.A, B.A.S.S AND B.ED.

TITLE	:	STATISTICAL GEOGRAPHY
COURSE NUMBER	:	GEP 223
TIME ALLOWED	:	THREE (3) HOURS
INSTRUCTIONS	:	1. ANSWER THREE (3) QUESTIONS.
		2. QUESTION ONE (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 CLEARLY SHOWN.
		6. YOU WILL BE PROVIDED WITH GRAPH PAPERS AND TABLES FOR CRITICAL VALUES AND SIGNIFICANT LEVELS.

MARK ALLOCATION: QUESTION ONE (1) CARRIES FORTY (40) MARKS AND THE OTHER QUESTIONS ARE THIRTY (30) MARKS EACH.

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SECTION A   COMPULSORY QUESTION

QUESTION 1

The data in Table 1 show some basic indicators for selected countries under different income groups.

(a) Using an appropriate statistical measure, establish the types of relationships between:
    (i)   the size of the population and the GDP per capita   [10 marks]
    (ii)   the GDP per capita and life expectancy at birth.   [10 marks]

(b) Plot the relationship observed in (i) and (ii)   [10 marks]

(c) Using information from both data indicated in Table 1 and the graphs plotted in (b) above, comment on the relationship between:

(i) size of the population and the GDP per capita between the countries.   [05 marks]
(ii) the GDP per capita and life expectancy at birth between the countries   [05 marks]

[40 marks]

SECTION B   ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION 2

Table 2 shows hypothetical scores for a sample of students from three (3) different high schools in the Shiselweni district. The H_o states that there is no difference in the scores obtained by the students from the three high schools. The H_1 states that there is actually a difference in the scores obtained by the students in the three high schools. Apply the Kruskal-Wallis test to establish whether the H_o can be rejected at 0.01 significance level in favour of H_1.

[30 marks]

QUESTION 3

    (a) Identify the main sources of information generally available to a geographer who wants to engage in 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 4

(a) Define the measures of skewness. [05 marks]

(b) Find the skewness of 4, 5, 5, 6, 6, 7, 7, 8 [20 marks]

(c) Explain the meaning of skewness measure obtained in (b) above. [05 marks]

[30 marks]

QUESTION 5

(a) Outline the functions of statistical techniques in geography. [10 marks]

(b) Explain the main steps involved in the scientific approach in analyzing geographical problems.

[12 marks]

(c) Indicate instances where you can use the following statistics:

(i) students t-test
(ii) Regression analysis
(iii) Pearson Correlation Coefficient
(iv) Chi-Square test [08 marks]

[30 marks]

Table 1 Basic indicators for selected low, middle, upper middle and high income countries

Country	Population (millions)	GDP PER CAPITA (US $)	Life expectancy at birth (1994)
Low Income			
1. Mozambique	15.5	90	46
2. Ethiopia	54.9	100	49
3. Tanzania	28.8	140	51
4. Burundi	6.2	160	50
5. Sierra Leone	4.4	160	40
6. Malawi	9.5	170	44
Middle Income			
7. Bolivia	7.2	770	60
8. Indonesia	190.4	880	63
9. Philippines	67.0	950	65
10.Bulgaria	8.4	1250	71
11. Romania	22.7	1270	70
12. Algeria	27.4	1650	69
High Income			
13. Portugal	159.1	2 970	67
14. New Zealand	40.5	3 040	64
15. United Kingdom	1.3	3 880	54
16 Canada	88.5	4 180	71
17. United States	2.1	5 140	70
18. Norway	34.2	8 110	72

Source: World Development Report

Table 2 Hypothetical scores for sampled students of three High schools

Evelyn Baring High	Ngwane High School	Franson Christian High
98	81	84
87	76	89
99	94	91
88	77	85
79	84	88

Source: Hypothetical