



KISII UNIVERSITY

UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF THE
DEGREE OF BACHELOR OF EDUCATION (ARTS)
SECOND SEMESTER, 2021/2022
(FEBRUARY - JUNE, 2022)**

GEOG 113: QUANTITATIVE METHODS IN GEOGRAPHY

STREAM: Y1 S2

TIME: 2 HOURS

DAY:

DATE:

INSTRUCTIONS

1. *Do not write anything on this question paper.*
2. *Answer Question ONE in section A [Compulsory] and any other TWO Questions from section B.*

SECTION A. (30 MARKS)

QUESTION ONE

- (a) Explain the context of quantitative geography and its contribution to the development of geography in the twenty first century. [4 marks]
- (b) Outline the main features of the normal distribution. [4 marks]
- d) Distinguish between continuous and discrete variables. [4 marks]
- (e) The table below shows the data obtained from three different tests done in the field.

TEST A	TEST B	TEST C
12	54	105
15	31	95
20	54	110
10	60	135
7	60	187
9	61	115

Required: Calculate for each,
i) Mean

[6 marks]

- ii) Standard deviation [6 marks]
- iii) Co-efficient of variation [6 marks]

QUESTSION TWO

- (a) State four advantages of sampling method. [4 marks]
- (b) Highlight the key requirements for a good sampling [4 marks]
- (c) The table below shows the amount of revenue collected in millions and technology index applied at Kisii teaching and referral hospital.

Revenue (in millions)	Technology index
414.6	7.45
358.6	8.19
439.8	7.37
64.8	1.68
159.2	5.06
130.5	4.20
395.3	5.97

Required:

- i. Calculate the correlation coefficient
- ii. Comment on the results in (b) i above [12 marks]

QUESTION THREE

- b) Describe the following variables
 - i. Random Variables [4 marks]
 - ii. Probability distribution [4 marks]
 - iii. Continuous distribution [4 marks]
- c) Discuss four systematic components of error occurring from sampling [8 marks]

QUESTION FOUR

- a) Discuss the basic parameters in hypothesis testing [8 marks]
- b) Explain **type one** and **type two** errors [4 marks]
- c) Explain four issues emerging from hypothesis testing [8 marks]

QUESTION FIVE

- a) Discuss four challenges associated with sampling [8 marks]
- b) The data below shows the amount of revenue in millions obtained from the tourism sector in Country X in a certain year.

415.8
368.6
440.9
65.3
259.4
132.4
396.5

Required:

Calculate,

- i. the mean revenue collected
- ii. the median revenue collected
- iii. First quartile and upper quartile

[12 marks]