## CHUKA



## THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF BACHELOR OF EDUCATIO (ARTS)

GEOG 233: CARTOGRAPHY AND SURVUEYING
STREAMS: BA (GEOG, ECON \& SOCIOLOGY) Y2S1
TIME: 2 HOURS
DAY/DATE: FRIDAY 8/12/2017
8.30 A.M - 10.30 A.M.

## INSTRUCTIONS:

- Answer Question ONE and any other TWO Questions
- Sketch diagrams and illustrations should be used whenever necessary to support your answer.
(a) QUESTION ONE
(b) Using a sketch map, explain the four features of a good cartographic map.
(c) Describe any FIVE sources of data used in map making.
(d) Outline any THREE properties measurement parameters in surveying.

QUESTION TWO
Examine any FIVE types of horizontal survey measurements.

QUESTION THREE
(a) Explain the two methods of booking and reducing levels.
[4 Marks]
(b) The following readings were taken from the observation in a field survey

| Station A | 2.400, | 2.000, | 1.900, | 1.400 |
| :--- | :--- | :--- | :--- | :--- |
| Station B | 20800, | 2.000, | 1.400, | 2.600 |
| Station C | 1.300, | 2.500, | 3.000 |  |
| Station D | 0.600, | 1.700, | 2.100 |  |

Book and reduce the above readings using Rise and fall method.
Given the Reduce level of A is 150.00 , then calculate the reduced levels of other stations.
[3 Marks]
(c) Explain any THREE kinds of errors arising from surveying and how to correct them.
[6 Marks

## QUESTION FOUR

(a) Examine any FOUR properties of symbols used in 2D mapping.
(b) Discuss FOUR sources of data for map making.
(c) Differentiate between geographic fields and geographic objects.

## QUESTION FIVE

Briefly explain the following concepts:
(a) Statistical maps [4 Marks]
(b) Scales of measurements. [4 Marks]
(c) Levelling
[4 Marks]
(d) Coordinates
[4 Marks]
(e) Chain surveying
[4 Marks]

