CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF ARTS

GEOG 436: DATA PROCESSING AND PRESENTATION TECHNIQUES

STREAMS: B.A   **TIME: 2 HOURS**

DAY/DATE: THURSDAY 23/09/2021   **8.30 A.M – 10.30 A.M.**

INSTRUCTIONS:
- **Answer question ONE and any other TWO questions.**
- **Use illustrations where appropriate**

1.   (a)   Define the following:
           (i)   Data processing   (2 marks)
           (ii)   Big Data   (2 marks)
           (iii)   Metadata   (2 marks)

       (b)   Distinguish between:

           (i)   Filtering and sorting of data   (3 marks)
           (ii)   Spatial Autocorrelation and Spatial Interpolation   (4 marks)
           (iii)   Vector and raster data   (3 marks)

       (c)   Discuss the sources of data for geographic data processing.   (6 marks)

       (d)   Here are some data from Demographic Health Survey of Kenya for the year 2016. The variables displayed are described in the codebook as:

             Tribe of respondent: Kikuyu, Meru or Kamba
             Respondent's highest education level
             Number of children in respondent's family

Data from Demographic Health Survey 2016

Respondent ID Number	Tribe	Highest Education Level	Number of Children
1433	Meru	Some years of college	2
2344	Kikuyu	Bachelors	0
878	Kamba	Completed high school	1
337	Kikuyu	Tertiary college	2
431	Kikuyu	Completed high school	1
181	Kikuyu	Completed high school	1
2408	Kikuyu	Completed high school	4
2302	Kikuyu	Completed high School	0
2799	Kamba	Completed high school	0
601	Meru	Completed high school	0
657	Kikuyu	Completed high school	1
1605	Kikuyu	Competed high school	0
671	Kikuyu	Tertiary college	4
1655	Kikuyu	Completed high school	3
2795	Kikuyu	Masters	2
391	Kamba	Completed high school	0
2045	Kikuyu	Tertiary college	5
146	Kikuyu	Tertiary college	2
2727	Kikuyu	Completed high school	2
1920	Kikuyu	Completed high school	0

For each variable:

(i)   Create a frequency chart that includes relative frequencies and cumulative relative frequencies.   (4 marks)

(ii)   Prepare a pie chart to display the distributions.   (4 marks)

2.   (a)   (i)   Describe how one processes questionnaire data in excel   (4 marks)
                (ii)   Explain 3 ways of presenting the output.   (10 marks)

        (b)   Discuss the advantages of capturing data online.   (7 marks)

        (c)   What are the common challenges associated with data entry in Excel. (3 marks)

3.   Describe the procedure for processing, analysing and presenting data obtained from:

        (i)   Photograph
        (ii)   Semi-structured questionnaire
        (iii)   Key informant questionnaire
        (iv)   Key informant interview
        (v)   Spatial Imagery   (20 marks)
4.   Digital geographic data has enhanced spatial planning and resources management. Discuss.   (20 marks)

5. Discuss the process of processing aerial photographs using a mirror stereoscope.

(20 marks)