(Knowledge for development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2020/2021 ACADEMIC YEAR

MAIN EXAMINATION

THIRD YEAR SECOND SEMESTER

FOR THE DEGREE OF BACHELOR OF EDUCATION ARTS

COURSE CODE: GEO 321

COURSE TITLE: GEOGRAPHIC INFORMATION SYSTEMS

DATE: OCTOBER 4, 2021   **TIME: 2 – 4 PM**

INSTRUCTIONS TO CANDIDATES

1. **Answer Question ONE (Q1) Compulsory**
2. Answer any other TWO (2) Questions
3. Use illustration where appropriate

This paper consists of 3 printed pages.   Please Turn Over.

QUESTION 1 (COMPULSORY)

Describe the following concepts

    a. Compositing   (5 Marks)

    b. Clipping   (5 Marks)

    c. Buffering   (5Marks)

Discuss the various forms of analysis carried out by GIS   (15 Marks)

2. You are provided with a Kenyan shapefile and a shapefile on Kenyan rainfall distribution. Using ArcGIS 10.5, describe the procedure of creating a shapefile on rainfall distribution of Laikipia County. The new shapefile should be used in a word document.   (20 Marks)

3. Using Arc GIS 10.5, describe the procedure of carrying out supervised classification on Landsat imageries so as to obtain information on land cover change between 2010 and 2021   (20 Marks)

4. .a. Discuss the various sources of GIS data   (10 Marks)

      .b. Citing relevant examples distinguish between raster and Vector as used in GIS

                                                                 (10 Marks)

5. .a. Discuss the fundamental operations carried out by GIS   (10 Marks)

    .b. Discuss the role of GIS in geographical research   (10Marks)