(Knowledge for development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2020/2021 ACADEMIC YEAR

SPECIAL EXAMINATION

THIRD YEAR SECOND SEMESTER

FOR THE DEGREE OF BACHELOR OF INFORMATION

TECHNOLOGY

COURSE CODE: BIT 424

COURSE TITLE: GEOGRAPHIC INFORMATION SYSTEMS

DATE:7TH JANUARY 2022   **TIME: 11:00PM-1:00PM**

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.

BIT424

QUESTION 1 (COMPULSORY)

i. Describe the following terms as used in GIS

    a. Mosaicing   (5 Marks)

    b. Remote Sensing   (4 Marks)

    c. Compositing   (3 Marks)

    d. Clipping   (2 Marks)

ii. Describe the process involved in remote sensing   (6 Marks)

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

QUESTION 2

You are provided with 3 shapefiles. a) Kenyan shapefile b) Shapefile on Kenyas forests. Using ArcGIS 10.5

    a) Describe the procedure of creating a shapefile on forests of Kakamega County. The new shapefile should be used in a word document.   (10 Marks)

    b) To ensure that wetlands in Bomet counties are protected, the county government has instructed that multiple buffers must be created around its forests. Describe the procedure of creating multiple buffers around forests in Kakamega county (10 Marks)

QUESTION 3

Using Arc GIS 10.5, describe the procedure of carrying out supervised classification on Landsat imageries of Kakamega County so as to obtain information on Land Use/Land cover change between 2010 and 2021   (20 Marks)

QUESTION 4

    a) Discuss the various sources data used in GIS   (10 Marks)

    b) Citing relevant examples distinguish between aster and Vector as used in GIS

                                                  (10 Marks)

QUESTION 5

Discuss the significance of GIS and Remote Sensing in geographical research

                                                    (20Marks)