



*(Knowledge for Development)*

## **KIBABII UNIVERSITY**

**2019/2020 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER  
SPECIAL/SUPPLEMENTARY EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
BIORESOURCES MANAGEMENT**

**COURSE CODE: SBC 413**

**COURSE TITLE: PRINCIPLES OF REMOTE SENSING AND  
GEOGRAPHIC INFORMATION SYSTEM**

**DATE: 17<sup>TH</sup> FEBRUARY, 2021**

**TIME: 11:00-1:00 P.M.**

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### **INSTRUCTIONS TO CANDIDATES**

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

**TIME: 2 Hours**

This paper consists of 3 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

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QUESTION 1

- a. Define remote sensing and describe any three types of remote sensing platforms (9 marks)
- b. Briefly explain the following types of resolutions in spatial data capture
  - i. Spectral resolution (3 marks)
  - ii. Spatial resolution (3 marks)
  - iii. Temporal resolution (3 marks)
- c. Differentiate between the following GIS and remote sensing concepts:
  - i. RADAR and LiDAR (4 marks)
  - ii. Visible band and infrared band (4 marks)
  - iii. Atmospheric window and absorption bands (4 marks)

QUESTION 2

- a. Highlight reasons why GIS stands out as a multi-disciplinary technique. (10 marks)
- b. Highlight some of the shortfalls of traditional hard copy maps/charts that propelled the development of GIS (10 marks)

QUESTION 3

Outline features of a natural resource map and explain its relevance. (20 marks)

QUESTION 4

Discuss the components of a typical GIS (20 marks)

QUESTION 5

Discuss the applications of Geographic Information Systems (GIS) in Bio-Resource Management and Conservation. (20 marks)