



KIBABII UNIVERSITY

UNIVERSITY EXAMINATION

ACADEMIC YEAR 2020/2021

THIRD YEAR FIRST SEMESTER EXAMINATIONS

BACHELOR OF ARTS IN EDUCATION

COURSE CODE: GEO 311

COURSE TITLE: REMOTE SENSING

DATE: JANUARY 14, 2022

TIME: 8 – 10 AM

DURATION: 2HOURS

INSTRUCTIONS TO CANDIDATES

Answer QUESTION ONE AND ANY OTHER TWO QUESTIONS.



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QUESTION 1:

(a). Explain the following terms as applied in remote sensing:

- i. Remote Sensing (2 marks)
- ii. Ground truthing (2 marks)
- iii. Global Positioning System (2 marks)
- iv. Path-length (2 marks)
- v. Passive Sensor (2 marks)

(b). Describe how the following features will appear when observed in the Visible and in the Near Infra-Red bands of the electromagnetic spectrum

- i. Clear unpolluted water (8 marks)
- ii. Ferrous soils (4 marks)
- iii. Green plants (8 marks)

QUESTION 2

Describe the THREE main forms of atmospheric scattering of the electromagnetic energy and outline how they affect land-use imagery. (20 marks)

QUESTION 3

Describe how you would use Remote Sensing in range and forestry management. (20marks)

QUESTION 4

Two adjacent freshly ploughed farms may have varied spectral signatures when imaged along different spectral bands. Explain the possible causes of these variations. (20 marks)

QUESTION 6

- a. Discuss how you would use vegetation spectral reflectance in determining soil moisture content over space and time. (10 marks)
- b. Explain the importance of texture and pattern in monitoring land-use changes (10 marks)