MACHAKOS UNIVERSITY

University Examinations for 2023/2024 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION (SPECIAL NEEDS EDUCATION),

BACHELOR OF EDUCATION (ARTS) AND

BACHELOR OF ARTS

AGE 400: REMOTE SENSING AND RESOURCE MANAGEMENT

DATE: **TIME:**

Instructions: Answer question ONE and any other TWO questions

QUESTION ONE (30 Marks)

a) Explain the following concepts

i. Remote sensing (2 marks)
ii. Spectral signature (2 marks)
iii. Radiometric resolution (2 marks)
iv. Atmospheric windows (2 marks)
v. Geometric error (2 marks)

b) Explain why you would recommend remote sensing data for monitoring natural resources in Kenya (10 marks)

c) Using an illustration, discuss the interactions between electromagnetic radiation and Earth's atmosphere (10 marks)

QUESTION TWO (20 MARKS)

a) Using an illustration, describe the key components in the remote sensing process (10 marks)

b) Discuss the concept the electromagnetic spectrum and its relevance in remote sensing (10 marks)

QUESTION THREE (20 MARKS)

Discuss the key image pre-processing and enhancement approaches required before interpretation or analysis of satellite images

QUESTION FOUR (20 MARKS)

Describe the key steps you would adopt in supervised classification of remote sensing data

QUESTION FIVE (20 MARKS)

Discuss the potential application of remote sensing in management of marine resources in Kenya