



MACHAKOS UNIVERSITY
University Supplementary Examinations for 2021/2022 Academic Year
SCHOOL OF ENVIRONMENT AND NATURAL RESOURCE MANAGEMENT
DEPARTMENT OF ENVIRONMENTAL SCIENCES

**FIRST YEAR SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF
MASTER OF ENVIRONMENTAL SCIENCE**

**ENS 801: APPLIED REMOTE SENSING AND
GEOGRAPHIC INFORMATION SYSTEM**

Date:

Time:

Instructions: Answer question ONE and any other THREE questions

QUESTION ONE (15 Marks)

- a) Highlight the importance of using remote sensing and geographic information system in management of natural resources. (5 Marks)
- b) Discuss the supervised and unsupervised image classification methods used to extract information from remote sensing data. (10 Marks)

QUESTION TWO (15 Marks)

- a) Highlight the different aspects of raster data model used in GIS (5 Marks)
- b) Discuss the approaches suitable for radiometric correction of remote sensing data. (10 Marks)

QUESTION THREE (15 Marks)

“Spatial analysis leads to better decision making and spatial planning.” Discuss this statement using appropriate examples.

QUESTION FOUR (15 Marks)

Using appropriate examples, discuss the multi-layer operations used in processing of vector data in GIS.

QUESTION FIVE (15 Marks)

Discuss how the concept of spectral signatures can be used to study different objects on the earth’s surface using remote sensing.