



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENTAL SCIENCES

SECOND YEAR FIRST SEMESTER EXAMINATION FOR
BACHELOR OF ENVIRONMENTAL SCIENCE

ENS 233: SOIL HABITATS

DATE:

TIME:

INSTRUCTIONS: Answer question ONE and any other TWO questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Citing relevant examples, explain the following concepts
- | | |
|-----------------------------|-----------|
| i. Soil survey | (2 marks) |
| ii. Pedology | (2 marks) |
| iii. Chemical weathering | (2 marks) |
| iv. Nitrogen mineralization | (2 marks) |
| v. Soil science | (2 marks) |
- b) Explain the impacts of increasing rates of Nitrogen deposition on soil habits (10 marks)
- c) Explain the key factors affecting the soil formation process (10 marks)

QUESTION TWO (20 MARKS)

- a) Using suitable examples, discuss the importance of soil biodiversity (10 marks)
- b) Explain the management considerations you would recommend to improve soil biodiversity in Arid and Semi-Arid areas (10 marks)

QUESTION THREE (20 MARKS)

Discuss the physical, chemical and biological properties which influence the sustainability of soil habitat

QUESTION FOUR (20 MARKS)

Using suitable examples, discuss the linkages between plant and soil biological communities

QUESTION FIVE (20 MARKS)

Using suitable examples, discuss the potential impacts of climate change on soil properties