



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF ENVIRONMENTAL SCIENCE

BACHELOR OF ENVIRONMENTAL STUDIES (RESOURCE CONSERVATION)

ENS 233: SOIL HABITATS

DATE: 19/01/2021

TIME: 8.30-10.30 AM

INSTRUCTIONS:

Answer question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

- a) Explain the following concepts:
- i. Ecology (2 marks)
 - ii. Ecosystem (2 marks)
 - iii. Habitats (2 marks)
 - iv. Rhizosphere (2 marks)
 - v. Biodiversity (2 marks)
- b) Using appropriate examples, discuss the potential effects of desertification on soil habitats (10 marks)
- c) Discuss the key processes in organic matter decomposition and cite the role of soil microbial communities in the process (10 marks)

QUESTION TWO (20 MARKS)

Discuss the key *physical*, *chemical* and *biological* properties of soil habitats

QUESTION THREE (20 MARKS)

- a) Citing relevant examples, write short notes on soil horizons (10 marks)
- b) Citing suitable examples, discuss the impacts of human activities on the abundance and functioning of soil microbial communities (10 marks)

QUESTION FOUR (20 MARKS)

Discuss the role of soil habitats in the achievement of sustainable development in Kenya

QUESTION FIVE (20 MARKS)

Using suitable examples, discuss the measures necessary to ensure sustainable management of soil habitats in Kenya