

National University of Lesotho

Faculty of Agriculture

Department of Soil Science

Final Examination – January 2023

SSR 4503 – Concepts of Soil Quality

January 2023

100 Marks

Time: 3 Hours

Instructions

Answer Any 5 Questions

Question 1

Make a detailed discussion of the evolution in the conceptual understanding and definition of soil quality (20)

Question 2

Compare and contrasts the parameters of soil quality in terms of intrinsic and dynamic aspects (20 marks)

Question 3

Make a concise summary discussion of the deficiencies of the current soil quality concept according to Letey et al., 2003. (20 Marks)

Question 4

Brief discuss the framework for soil quality evaluation (20 marks)

Question 5

Briefly discuss soil quality evaluation in terms of functions and make an example of one such function in terms of process, property, indicator and method (20 marks)

Question 6

Briefly discuss 5 processes associated with land use and management practices that reduce soil quality. Identify the process, discuss its effects on soil attributes /quality and the possible effect on the environment (20 marks)

Question 7

- a) List 5 chemical attributes for soil quality (5 marks)
- b) Discuss the implications of the soil quality and land sustainability