



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
Department of Biological Sciences
2025_2 EXAMINATIONS

BIO 408: Soil Ecology

Time: 2Hours

Credit Units: 2

INSTRUCTION: Attempt THREE (3) questions in all. Question 1 is compulsory

1. Discuss the factors used in determining soil formation (10 marks)
 - b. Explain the following terms:
 - i. Igneous (2marks)
 - ii. Sedimentary (2marks)
 - iii. Metamorphic (2marks)
 - iv. Weathering (2marks)
 - v. Soil formation (2marks)
 - c. Mention three (3) physical properties of soil and explain three (3) major factors that have the greatest influence on the colour of soil (10 marks)

- 2a. Mention the usefulness and importance of soil analysis application to plant (5marks)
 - b. Explain the following terms:
 - i. Soil texture (5marks)
 - ii. Soil Density (5marks)
 - iii. Soil Structure (5marks)

- 3a. List the sources of organic materials in plants (10 marks)
 - b. With appropriate example(s), enumerate the factors that affects the growth of crops (10 marks)

- 4a. Itemize the characteristic features affecting biogeochemical cycles (4 marks)
 - b. Differentiate between the sedimentary cycles and the gaseous cycles (6 marks)
 - c. Discuss the distribution and use of Oxisols (10 marks)

- 5a. Define detritivores and list four (4) importance of soil organisms (5 marks)
 - b. Itemize the essential elements that are present in the soil? (5 marks)
 - c. Differentiate between ammonification and nitrification (10 marks)