



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja

Faculty of Sciences

Department of Pure and Applied Sciences

2021_1 Semester 1234

COURSE TITLE: SOIL ECOLOGY

COURSE CODE: BIO 408

TIME ALLOWED: 2 HOURS

CREDIT UNIT: 2 Units

INSTRUCTION: ANSWER **QUESTION 1** AND **ANY OTHER THREE** QUESTIONS

- (a). With a schematic diagram, discuss the nitrogen cycle (12 marks)
 - (b). Discuss the applications of soil and plant tests; explain the implications of the results. (10 marks)
 - (c) Explain why soil taxonomy is said to be a hierarchical classification system. (3 marks)
2. What factors limit nutrients in the soil? Discuss them. (15 marks)
- (a). Briefly discuss three main sources of soil nutrient. (9 marks)
 - (c). Compacting a soil would likely reduce the amount of water available to growing plants. Give **four** reasons for this condition. (6 marks)
4. Present the important groups of soil organisms in **a table** under the headings shown below:
 - (i). General Grouping (5 marks)
 - (ii). Specific grouping (5 marks)
 - (iii). Named examples. (5 marks)

5. Discuss briefly the following:

(i). Soil water content - potential relationship

(8 marks)

(ii). Soil osmotic potential.

(7 marks)