



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF CROP AND SOIL SCIENCE
2025_2 EXAMINATIONS**

COURSE TITLE: SOIL FERTILITY AND PLANT NUTRITION (3CU)

COURSE CODE: SLM 302

TOTAL SCORE: 70 MARKS

INSTRUCTION: Answer 4 questions in all

Question 1 is compulsory (25 marks) and any other THREE questions (15 marks each)

TIME ALLOWED: 2 ½ Hours

- 1a. Expatriate on the usefulness of proper lime application in soil reaction management
- 1b. Highlight any five (5) disadvantages of using organic fertilizers
- 1c. Briefly describe the mechanisms by which plant roots cells get nutrients
- 1d. Describe the factors affecting tropical soil fertility status

- 2a. Highlight the relationships between potassium (K) Forms and other Soil Properties
- 2b. Expatriate on the factors influencing Phosphorus availability in the soil

- 3a. Describe the Role of Organic Matter in Soil Fertility
- 3b. Highlight the positive effects of liming on soil properties

- 4a. Highlight the losses due to Denitrification and volatilization
- 4b. Highlight the difference between mineralization and immobilization of phosphorous

- 5a. Highlight the benefits of legumes to sustainable agriculture
- 5b. Highlight some functions of the soils that are related to its quality