



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF CROP AND SOIL SCIENCE
2023_1 POP EXAMINATION**

COURSE CODE: SLM 301

COURSE TITLE: INTRODUCTIONS TO SOIL MINERALOGY (2 UNITS)

TOTAL SCORE: 70 MARKS

INSTRUCTION: Answer *THREE* Question in all

Question 1 is compulsory (30 marks) and any TWO Questions (20 marks)

TIME ALLOWED: 2 hours

- Q.1a. Enumerate the procedure in X-ray diffraction analysis (15 Marks)
- b. Identify and elaborate methods of mineral identification with regard to principle of X-ray diffraction. (15 marks)
- Q. 2. What are the advantages of X-Ray Diffraction and how do you relate Soil mineralogy and Plant nutrition? (20 Marks)
- Q. 3a. Relate the following terms: Isotropic and Anisotropic (6 Marks)
- b. Describe the term Thermogravimetric Analysis (14 Marks)
- Q. 4. Explain the Differential Thermal Analysis and its important reaction (20 Marks)