



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF CROP AND SOIL SCIENCE
2024_2 EXAMINATION**

COURSE TITLE: ANALYTICAL TECHNIQUES IN AGRICULTURE (3 CU)

COURSE CODE: AGR 503

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

1.
 - a. Explain what is a Good Laboratory Practice (GLP) (10 marks)
 - b. Classify Error i) based on its sources ii) based on whether or not the magnitude can be ascertained and correction made or not (5 marks)
 - c. List five (5) general soil sampling guidelines (5 marks)
 - d. State five (5) duties of a Hematologists (5 marks)

2.
 - a. Define the following terms i) Precision ii) Accuracy iii) Relative error (6 marks)
 - b. Outline eight (8) precautions to take during plant tissue sample preparation (4 marks)
 - c. Discuss the steps adopted in preparing samples for laboratory analysis (5 marks)

3.
 - a. Describe one (1) area in which cryopreservation is possible in any two (2) of the following: i) Freezable tissues ii) Preservation of microbiology cultures iii) fungi iv) bacteria (5 marks)
 - b. Differentiate between repeatability and reproducibility (5 marks)
 - c. Define the term “Blanks” an import aspect in most laboratory services (5 marks)

4.
 - a. Elucidate the term Calibration Graph (5 marks)
 - b. Write short notes on five (5) HPLC Parameters (5 marks)
 - c. Enumerate five (5) important considerations in selecting appropriate sampling plans in compliance with relevant standards in the feed industry (5 marks)

5.
 - a. Explain the term hematology (5 marks)
 - b. Describe how Primary and Composite samples are prepared (6 marks)
 - c. Discuss what you understand by serum biochemistry (4 marks)