



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

**EXAMINATION: 2021\_1 POP EXAMINATION**

**COURSE TITLE: ANALYTICAL TECHNIQUES IN AGRICULTURE (3 CU)**

**COURSE CODE: AGR 503**

**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**

**Q1**

- a. What do you understand by safety principles in Agricultural laboratories? (5 marks)
- b. Outline 10 different categories where safety is necessary in laboratories (10 marks)
- c. Briefly discuss 5 sources of contaminants in the laboratories and how to handle it (10 marks)

**Q2**

- a. Explain the term “Good Laboratory Practice” (GLP) (5 marks)
- b. What are the expected results of GLP when adequately applied (7 marks)
- c. What is the short message of GLP (3 marks)

**Q3**

- a. What do we use proximate analyses for? (3 marks)
- b. What is Risk Analysis in Animal Health? (4 marks)
- c. Briefly explain four (4) components of Risk Analysis (8 marks)

**Q4**

- a. Briefly explain crop sampling (5 marks)
- b. State 10 precautions during plant tissues sample preparation (10 marks)

**Q5**

- a. State the two (2) main categories of microscopy (2 marks)
- b. Mention the different types under each category (6 marks)
- c. State the parts and functions of an optic microscope (7 marks)