



**NATIONAL OPEN UNIVERSITY OF NIGERIA  
FACULTY OF AGRICULTURAL SCIENCES  
DEPARTMENT OF CROP AND SOIL SCIENCE  
2024 1 EXAMINATION**

**COURSE TITLE:** *Crop genetics and breeding (2 CU)*

**COURSE CODE:** *CRP 305*

**TOTAL SCORE:** *70 MARKS*

**INSTRUCTION:** *Answer 3 questions in all*

*Question 1 is compulsory (30 marks) and any other TWO questions (20 marks each)*

**TIME ALLOWED:** *2 ½ Hours*

- 1a. briefly discuss 5 (five) different methods of emasculation? (20 marks; 4marks each)
- b. Discuss five differences between mitosis and meiosis (10marks)
- 2a. List and explain the steps involved in controlled crosses (10 marks)
- b. Write short notes on the following terms (5 marks each)
- Gene
  - Phenotype
- 3a. Discuss the complete steps involved in handling pedigree method of breeding in self-pollinated crops (15 marks)
- b. State mendel's principle of independent assortment(5marks)
- 4a. Discuss Mendel's Principle of segregation (5marks)
- b. with the aid of diagram discuss the following terms
- monohybrid cross
  - dihybrid cross
  - trihybrid cross (15 marks)