



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

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. Explain in details the term Crop breeding? (10 marks)
- bi. Explain in details 3 (three) factors that contributes to biological variation? (12 marks; 4 marks each)
- ii. Define crossing and mention its significance in plant breeding (5marks)
- iii. What do you understand by fertilization? (3marks)
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- 2ai. Explain the term cell division. (5marks)
- ii. State the phenotype equation and explain the various variables in the equation. (5marks)
- b. Enumerate five differences between mitosis and meiosis(10marks)
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- 3a. Briefly discuss these two types of reproduction
- i. Sexual reproduction (2.5marks) ii. Vegetative reproduction. (2.5marks)
- bi. What do you understand by self-incompatibility? (5marks)
- ii. Write short notes on the following: i. Perfect flower ii. Imperfect flower iii. Monoecious plant iv. Dioecious plant. (10 marks; 2.5marks each)
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- 4a. differentiate between diploid and haploid (4marks)
- 4b. Give brief explanation of the following terms (16 marks ;4mark each)