



**National Open University of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**  
**Faculty of Science**  
**Department of Pure and Applied Sciences**

**June 2021 Examination**

**BIO309: Plant Breeding**

**Time: 1½ hours**

**Credit Unit: 1**

**Instructions: Answer question ONE (1) and any other THREE (3) questions**

- 1a List the 6 major activities of plant breeding (6mks)
- 1b Explain briefly Allosomes / Sex Chromosome as a special chromosome (4mks)
- 1c Outline the selection process of cross-pollinated crops (5mks)
- 1d Briefly discuss Cytoplasmic male sterility in hybrid maize breeding (10mks)
  
- 2a List the two groups of Heterochromatin (2mks)
- 2b Explain the circumstances leading to inbreeding depression (13mks)
  
- 3a Succinctly explain the term 'Plant Breeding' (5mks)
- 3b Outline steps involved in Plant breeding for disease resistance (10mks)
  
- 4a List the four categories of plant breeding methods used in crop production (4mks)
- 4b Explain the concept of Hybrid livestock production. (11mks)
  
- 5a Explain the Sporophytic system of Self-incompatibility (8mks)
- 5b Discuss the mechanism of self- fertilization in autogamous crops (7mks)