



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF ANIMAL SCIENCE AND FISHERIES
POP 2021_1₇₈₃₆

COURSE CODE: ANP 312

COURSE TITLE: Genetics and Breeding

CREDIT UNIT: 2 CU

TOTAL SCORE: 70 MARKS

TIME ALLOWED: 2 Hours

INSTRUCTIONS: ANSWER QUESTION 1 (30 MARKS) AND ANY OTHER TWO (20 MARKS EACH)

1. (a) Differentiate between Mitosis and Meiosis (6 marks)
(b) Why is cell division necessary in living organisms? (9 marks)
(c) List ten different shape of cells (10 marks)
(d) What is the major difference between plant and animal cell? (5 marks)

2. (a) Explain what you understand by line breeding indicating the necessary pre-conditions for the success of line breeding? (8 marks)
(b) Describe briefly the composition of Nucleotides. (12 marks)

3. (a) Draw and label the different parts of a typical plant cell (10 marks)
(b) List some of the benefits that can be derived from a well organised artificial insemination programme. (10 marks)

4. (a) Briefly explain hybridization as a method of breeding cross-pollinated crops (14 marks)
(b) Differentiate between complete and partial dominance in inheritance of characters by individuals. (6 marks)