

**NATIONAL OPEN UNIVERSITY OF NIGERIA  
FACULTY OF AGRICULTURAL SCIENCES  
DEPARTMENT OF ANIMAL SCIENCE & FISHERIES**

**Examination Questions: January, 2018**  
**Course Title: Genetics and Breeding (2 Credit Unit)**  
**Course Code: ANP 310**  
**Instructions: Total marks = 70. Question 1 is compulsory (25 marks), then answer any other 3 out of the 5 that follow (15 marks each).**  
**Time Allowed: 2 hours**

1(a) Draw and label the different parts of a typical animal cell. (15 marks)

(b) List five different types of cell. (5 marks)

(c) What is the difference between plant and animal cell? (5 marks)

2(a) State briefly the properties of a typical cell membrane. (6 marks)

(b) What are the functions of lysosomes? (4 marks)

(c) Why is mitochondria considered as the "Power house" of a cell? (5 marks)

3(a) List the main chemical constituents of the cell. (5 marks)

(b) Briefly discuss the functions of any three chemical component of the cell. (10 marks)

4(a) What are nucleic acid? (5 marks)

(b) Write short notes on the types of RNA found in cells. (10 marks)

5(a) Using appropriate illustration describe the process of cytokinesis in cells. (10 marks)

(b) What is meiosis? (5 marks)

6. Define the following terms: (15 marks)

i) Artificial insemination

ii) Inbreeding

iii) Line breeding

iv) Cross breeding

v) Upgrading