National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi, Abuja
Faculty of Agricultural Sciences
October/November, 2016

COURSE CODE: ANP 310
COURSE TITLE : GENETICS AND BREEDING **:(2 UNITS)**
DURATION: **2 HRS**
INSTRUCTIONS: Answer question one and any other 3 questions

1. (a) Draw and label the different parts of a typical animal cell.
   (b) Write short notes on the following constituents of the cell:
   (I) Cell membrane
   (ii) Endoplasmic reticulum
   (iii) Golgi body
   (iv) Nucleus

2. (a) What are Plastids?
   (b) What are the functions of plastids?
   (c) Which constituent of the cell performs the function of chloroplast in photosynthetic bacteria
3. (a) What are the chemical components of the cell?
   (b)What are inorganic salts?
   (c) Give examples of ten inorganic salts found in cells
4. (a) Differentiate between DNA (deoxynucleic acid) and RNA (ribonucleic acid)
   (b) Name and describe the types of RNA found in cells.
   (c) What is meiosis?

5. (a) Briefly discuss the significance of mitosis
   (b) What is cytokinensis?
   (c) In which part of the plant can meiosis be studied?

6. (a) Using appropriate Illustration , explain the term " Complimentary gene"
   (b) Define the following:
   (i) Inbreeding
   (ii) Inbreeding coefficient
   (iii) Give four examples of traits associated with inbreeding