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**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**MAY/JUNE 2012 EXAMINATION**

ANP 310: GENETICS AND BREEDING

TIME ALLOWED: 2HOURS

ANSWER FOUR QUESTIONS ONLY

1. i. List the different components of the cell.

ii. State the functions of any five components of the cell.

iii. What are the chemical components of the cell?

iv. What is the major role of nucleic acids in the transmission of traits.

1. i. Define the term mitosis and meiosis.

ii. What is cytokinesis?

iii. What are the basic laws of inheritance?

iv. Briefly explain the practical significance of the laws of Mendel.

1. i. What is Mutation?

ii. Name the various types of Mutation.

iii. What are the different methods used in breeding self-pollinated plants?

iv. Give two advantages and limitations of the methods used in breeding self- pollinated plants.

1. i. What methods are used by breeders to breed cross-pollinated crops.

ii. What are the advantages and limitation of the various methods used in breeding cross-pollinated crops?

iii. Give five examples of crops that are cross-pollinated.

iv. What is heterosis?

1. i. What are the major methods used by breeders for multiplying asexually propagated crops?

ii. What are the steps involved in artificial insemination?

iii. What is the major limitation of clone selection method?

iv. Give five examples of asexually propagated crops.

1. i. What are the major aims of Animal Improvement Programmes?

ii. Briefly discuss the various methods of Selection

iii. What is the major advantage of cross breeding?

iv. List four factors that militate against the effective use of artificial insemination in Nigeria.