



NATIONAL OPEN UNIVERSITY OF NIGERIA

Faculty of Agricultural Sciences

Department of Animal Science and Fisheries

POP Examination SEPTEMBER, 2020

Course: ANP504: Biotechnology In Animal Production

Credit Unit: 2

Time Allowed: 2 hours.

**INSTRUCTIONS: Answer question one (Compulsory: 25 Marks) and any other THREE (15 marks each)**

#### QUESTION ONE

- i. Explain briefly the concept Biotechnology, Recombinant DNA technology and Genetic engineering and state their importance?
- ii. State the important applications of Marker Assisted Selection [MAS] in plant or animal breeding **25 marks**

#### QUESTION TWO

- i. What are usefulness of Deoxyribonucleic acids with the advancements in molecular biology?
- ii. Explain how the Deoxyribonucleic acids test is conducted for meat quality. **15 marks**

#### QUESTION THREE

Write short notes on the following:

- i. Cloning
- ii. Composite interval mapping and its merits **15 marks**

#### QUESTION FOUR

- i. Define the term marker aided selection
- ii. Enumerate the important steps of marker aided selection
- iii. Highlight various types of molecular markers used for marker assisted selection
- iv. Why would a breeder use transgenesis instead of selective breeding? **15 marks**

#### QUESTION FIVE A

Write short notes on the following:

- i. Oocyte harvesting (OPU)
- ii. Multiple ovulation and embryo transfer (MOET)

iii. Controlled Breeding and Synchronization

15 marks

QUESTION SIX A

- i. Briefly describe the concept of DNA fingerprint
- ii. Enumerate the important steps in DNA fingerprint

15marks

ANIMAL