



NATIONAL OPEN UNIVERSITY OF NIGERIA

Faculty of Agricultural Sciences

Department of Animal Science and Fisheries

2025_2 EXAMINATIONS

Course: ANP504: Biotechnology In Animal Production

Credit Unit: 2

Time Allowed: 2 hours.

INSTRUCTIONS: Answer question one (Compulsory: 30 Marks) and any other TWO (20 marks each)

Question 1 (Compulsory: 30 Marks)

- (a) Define genetic engineering and explain its significance in Animal production. (10 marks)
- (b) Describe the process of cloning as a tool in biotechnology. (10 marks)
- (c) Discuss the application of Marker-Assisted Selection in animal breeding programs. (10 marks)

Question 2 (20 Marks)

- (a) Explain recombinant DNA technology. (8 marks)
- (b) Provide an example of a genetically modified organism in animal production. (8 marks)
- (c) Discuss the potential benefits of GMOs in improving animal productivity. (4 marks)

Question 3 (20 Marks)

- (a) What are gene banks, and why are they important? (8 marks)
- (b) Describe the methods used to store genetic material in gene banks. (8 marks)
- (c) Discuss how gene banks contribute to animal genetic diversity. (4 marks)

Question 4 (20 Marks)

- (a) Explain the process of DNA fingerprinting. (8 marks)
- (b) Discuss the applications of DNA fingerprinting in animal production. (8 marks)
- (c) Provide an example of DNA fingerprinting in a specific breeding program. (4 marks)