

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
SCIENCE IN ANIMAL PRODUCTS AND PROCESSING TECHNOLOGY**

ANTP 462: REPRODUCTIVE BIOTECHNOLOGY

STREAMS: ANTP

TIME: 2 HOURS

DAY/DATE: TUESDAY 09/04/2024

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS

- Answer ALL questions in Section A and any other two in section B

SECTION A (30 Marks)

1. Define bioinformatics and its application in biotechnology (4 marks)
2. Briefly discuss how a transgenic animal is developed (5 marks)
3. Discuss the challenges of adoption of biotechnology in animal production (5 marks)
4. Define polymorphism and discuss its application in animal breeding (4 marks)
5. Discuss application of biotechnology in heat detection in animals (4 marks)
6. Briefly discuss how marker assisted selection is applied in animal breeding (4 marks)
7. Define a gene bank and discuss its significance (4 marks)

SECTION B (40 marks)

8. a) State the advantages and disadvantages of the use of artificial insemination (10 marks)
b) Discuss process of multiple ovulation and embryo transfer in cattle (10 marks)
- 9 a) Define gene sequencing and the methods of gene sequencing (8 marks)
b) Discuss the application of DNA sequencing in animal production (4 marks)
c) Discuss how biotechnology has been applied in checking meat quality (8 marks)

10. a) Discuss the significance and methods used in animal genetic resource conservation
(10 marks)
- b) Discuss the regulation and ethics that govern animal biotechnology in Kenya
(10 marks)
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