

2425/102  
ANIMAL PRODUCTION I  
Oct./Nov. 2022  
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN AGRICULTURE**

**MODULE I**

ANIMAL PRODUCTION I

**3 hours**

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*Answer booklet;*

*Non-programmable scientific calculator.*

*This paper consists of EIGHT questions.*

*Answer any FIVE questions in the answer booklet provided.*

*All questions carry equal marks.*

*Maximum marks for each part of a question are indicated.*

*Candidates should answer the questions in English.*

**This paper consists of 3 printed pages.**

**Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

1. (a) Explain **five** ways through which livestock contribute to household livelihoods. (10 marks)
- (b) Explain the management of total feedlot animals. (10 marks)
2. Describe drenching cattle under the following:
- (a) meaning; (2 marks)
- (b) effects of incorrect drenching; (4 marks)
- (c) methods of drenching. (14 marks)
3. (a) Highlight **four** characteristics of East African rangelands. (4 marks)
- (b) Explain the **four** principles of grazing management. (16 marks)
4. (a) Explain each of the following breeding systems:
- (i) random mating;
- (ii) phenotypic assortive mating;
- (iii) phenotypic dissortive mating;
- (iv) genetic assortive mating;
- (v) genetic dissortive mating. (10 marks)
- (b) In a certain population, 38% of the individuals are recessive homozygotes for a certain trait. Assuming the population obeys Hardy-Weinberg equilibrium and has 14500 individual animals, calculate the:
- (i) frequency of homozygous recessive individuals;
- (ii) number of homozygous dominant individuals;
- (iii) number of heterozygous dominant individuals. (10 marks)
5. (a) Highlight the benefits of feeding bypass protein feeds. (10 marks)
- (b) Define each of the following terms:
- (i) formula;
- (ii) nutrient;
- (iii) diet;
- (iv) ration;
- (v) feedstuff. (10 marks)



6. Describe the following diseases under aetiology, symptoms and control:
- (a) mastitis; (10 marks)
  - (b) anaplasmosis. (10 marks)
7. (a) Explain **five** methods used in rangeland improvement. (10 marks)
- (b) Explain **five** types of losses that would occur due to animal diseases. (10 marks)
8. (a) Explain the meaning of each of the following:
- (i) breed;
  - (ii) type of animal;
  - (iii) indigenous breed;
  - (iv) exotic breed.
- (8 marks)
- (b) (i) Differentiate between essential and non-essential amino acids.
- (ii) Explain **four** problems associated with inadequate supply of amino acids in livestock. (12 marks)

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