Name: _____ Index No: _____/_____

2425/102
PRINCIPLES OF ANIMAL
PRODUCTION
Oct./ Nov. 2013
Time: 3 hours

Candidate's Signature: _____

Date: _____

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN AGRICULTURE
MODULE I

PRINCIPLES OF ANIMAL PRODUCTION

3 hours

INSTRUCTIONS TO CANDIDATES

Write your name and index number in the spaces provided above.
Sign and write the date of the examination in the spaces provided above.
You should have a calculator for this examination
*Answer **FIVE** questions out of the **EIGHT** questions in the spaces provided in this paper.*
Maximum marks for each part of a question is as shown.
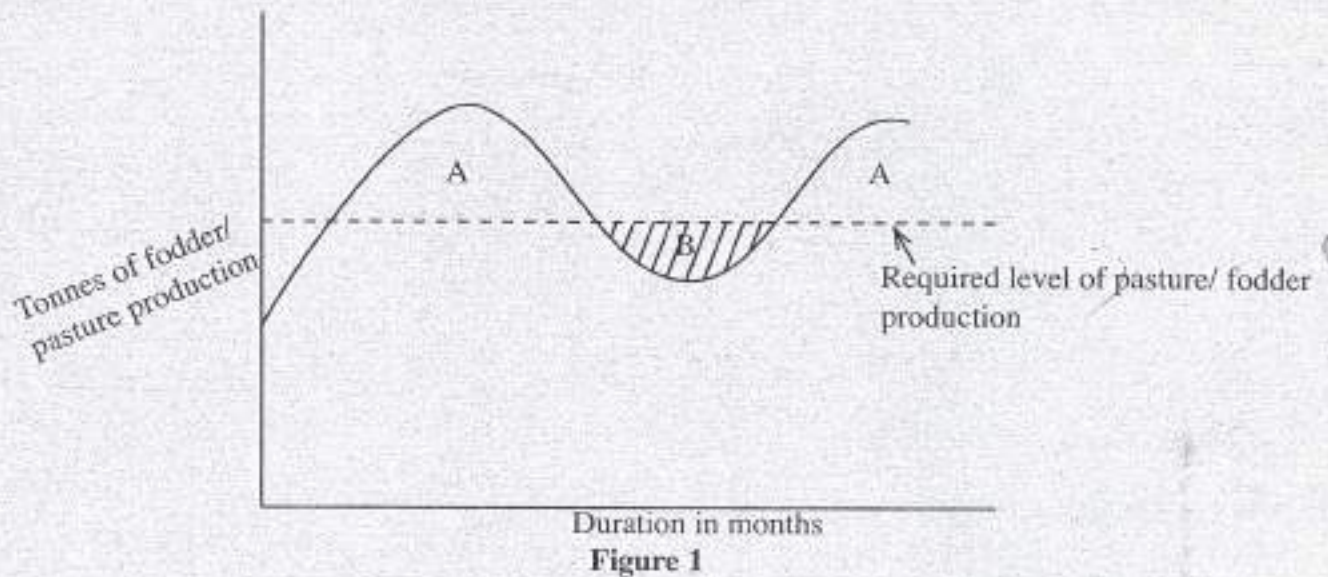***Candidates should answer the questions in English.***

For Examiner's Use Only

Question	1	2	3	4	5	6	7	8	Total Score
Candidate's Score									

This paper consists of 16 printed pages.

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

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Turn over

1. (a) (i) Highlight the features of a pastoral livestock farming system. (6 marks)

    (ii) Identify **four** ways of improving productivity in a pastoral system. (4 marks)

    (b) (i) Outline the procedure of teaching a calf to drink milk from a bucket.

    (6 marks)

    (ii) Describe the method of using a weighband for estimating the weight of a calf.

    (4 marks)

2. Figure 1 below shows the production of pasture/ fodder in a one year period. Study the figure and answer the questions that follow:

Figure 1

    (a) (i) Explain the nature of pasture production shown in figure 1. (4 marks)

    (ii) Deduce the effects of the concept depicted by figure 1 on livestock production.

    (8 marks)

    (b) Suggest solutions to the problem associated with the shaded region marked B.

    (8 marks)

3. (a) Explain the animal factors considered when formulating a ration. (4 marks)

    (b) Outline the steps taken in feed rationing. (6 marks)

    (c) A ration of 16% C.P is required for a lactating cow. The available materials are as follows:

    Maize   - 10% C.P
    Sorghum   - 11% C.P
    Cotton seedcake   - 37.5% C.P
    Sawdust   - 2 kg
    Ratio of sorghum to maize - 2:1

    Determine the amount in kgs of the available materials in a 100 kg ration.
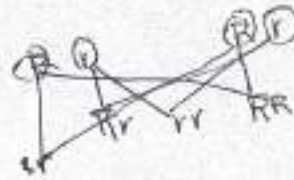   Use Pearson square chart formula. (10 marks)

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4. Discuss the signs of ill health in livestock. (20 marks)

5. Discuss anthrax in livestock under the following headings:

   (a) causal agent;
   (b) symptoms;
   (c) prevention;
   (d) treatment;
   (e) handling of infected carcass.

   (20 marks)

6. (a) Differentiate between phenotypic and genotypic frequency. (2 marks)

   (b) In a certain breed of cattle, the coat colour can be Red, Roan or White. Assume that the number of animals is 1000 as indicated in table 1.

   Table 1

Phenotypes	Genotypes	Number of animals
Red	RR	360
Roan	Rr	480
White	rr	160
TOTAL		1000

   Show that:

   (i) $F(RR) + F(Rr) + F(rr) = 1$

   (ii) $F(R) + F(r) = 1$

   (18 marks)

7. (a) Describe the term breeding. (5 marks)

   (b) Discuss selection in animal breeding. (15 marks)

8. (a) Explain how the effects of varied soil and climate in rangelands influence management. (4 marks)

   (b) Describe the following feedstuff:

   (i) feed additives;
   (ii) concentrates;
   (iii) roughages.

   (16 marks)