**SUNRISE ONE TERM 1 EXAMINATIONS 2023**

**Kenya Certificate of Secondary Education**

**FORM FOUR**

**Form 4 AGRICULTURE Term 1**

**PAPER 2 APRIL 2023 – 2 Hours**

**Name**: …………………………………………….. **Adm** **No**: ………**Index No**.……

**Class**: ……………… **Date**: ….………**STUDENT’S TARGET ……….…**

 **INSTRUCTIONS TO CANDIDATES.**

1. Write your name, admission number and class in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.

©This paper consists of **3** sections**; Section A, B and C respectively.**

 **For Examiner’s Use Only**

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| --- | --- | --- | --- |
|  **Section** | **Question** | **Maximum Score** | **Candidates Score** |
| **A** | **1 – 19** | **30** |  |
| **B** | **20 – 23** | **20** |  |
|  **C** |  **24 – 26** | **40** |  |
| **Total Score** | **90** |  |

 **SECTION A (30 MARKS**

 Answer all questions in this section.

1. State four characteristics of exotic dairy breeds. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
2. Differentiate between the following terms; (2mks)

(a). Steer and a bullock. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

(b). Boar and Sow. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

1. Name two tools used for dehorning. (1mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
2. Name two hormones that control milk let- down. (1mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
3. State four signs of farrowing in pigs. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
4. Outline four management practices carried out while rearing a heifer. (2mks)

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

1. State two effects caused by Keds in sheep. (1mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
2. Outline four characteristics of an African wild bee. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
3. Name the breeding terms used to describe parturition in the following farm animals; (2mks)
4. Sheep. **………………………………………………………………………………………**
5. Cattle. **……………………………………………………………………………………**
6. Rabbit. **……………………………………………………………………………………**
7. Goat. **……………………………………………………………………………………**
8. Name four routes through which the vaccines can be administered. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
9. State two abnormalities observed during egg candling. (1mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
10. State four advantages of natural incubation. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
11. Outline four disease causing micro-organism. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
12. State two factors that determine amount of water required by a dairy cow. (1mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
13. Name two dual purpose sheep breeds. (1mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
14. Name four parts found in a piggery unit. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
15. State four advantages of embryo transplant. (2mks) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
16. Name four disorders caused by mineral imbalances in cattle. (2mks)**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
17. Outline two physiological body functions that indicate illness in livestock. (1mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

 **SECTION B: (20 MARKS)**

1. (a) A farmer was advised to prepare 180kg of calf ration containing 20% DCP. Using Pearson’s square method, calculate the amount of maize containing 10% DCP and sunflower

containing 40% DCP the farmer needs to use. Show your working. (4 mks)

(b) State two factors considered when formulating a livestock ration. (2 mks) **……………………………………………………………………………………………………………………………………………………………………………………………………………………**

1. Study the diagram below and answer the questions that follow.

 

(a) Name the type of identification illustrated above. (1 mk) **…………………………………………………………………………………………………………**

 (b) Give the identification number of the pig illustrated above. (1 mk) **…………………………………………………………………………………………………………**

 (c) Using a diagram, illustrate how animal number 83 can be identified using the above

 method. (2 mks)

1. What is the use of metal rails in a farrowing pen? (1 mk) **…………………………………………………………………………………………………………**
2. The diagrams below show the behaviour of chicks in a brooder in response to heat.

 

 (a) Explain the behaviour of chicks in brooder;

 E – (1 mk) **…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….…………**

 F – (1 mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

 G – (1 mk) **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

 (b) Explain why the brooder is rounded. (1 mk) **……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….………………………………**

1. The diagram below shows the structure of the udder of a cow. Study it then answer the questions that follow.

 

 (a) Identify parts labeled K and L. (2 mks)

K –**…………………………………………………………………………………………………**

L –**…………………………………………………………………………………………………**

(b) Name two hormones that control milk let-down in a dairy cow. (2 mks) **……………………………………………………………………………………………………………………………………………………………………………………………………………………**

 (c) Name one disease that attack part labeled L. (1 mk) **……………………………………………………………………………………………………………………………………………………………………………………………………………………**

**SECTION C: (40 MARKS**

 Answer ONLY TWO questions from this section.

1. (a) Describe the physical characteristics of a good dairy cow for breeding. (10 mks)

 (b) (i) State five functions of water in the body of livestock. (5 mks)

 (ii) Explain the advantages of a four-stroke cycle engine. (5 mks)

1. (a) Explain five factors that affect milk composition in dairy cattle. (5 mks)

 (b) Describe five factors that may lead to failure of a cow to conceive after service. (5mks)

(c) Explain the factors that a farmer should consider when selecting materials to construct a zero-grazing unit. (10 mks

1. (a) Describe milk fever under the following sub-headings:

 (i) Animal affected. (1 mk)

 (ii) Cause of disease. (1 mk)

 (iii) Symptoms. (5 mks)

 (iv) Control measures. (3 mks)

 (b) Outline the advantages of artificial insemination in cattle. (10 mks)