**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Index No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Candidate’s Sign\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**443/2**

**AGRICULTURE**

**Paper 2(Theory)**

**August /September 2022**

**Time: 2 Hours**

ARISE AND SHINE EXAMINATION

Kenya Certificate of Secondary Education (K.C.S.E)

TRIAL 1 –TERM 2 AUGUST - 2022

**Instructions to Candidates:**

1. Write your name and index number in spaces provided above
2. This paper consists of **THREE** sections: A, B and C
3. Answer all questions in Section A and B.
4. All answers should be written in the spaces provided on this question paper.
5. Candidates should answer the questions in English.
6. Answer any two questions in section C

**For Examiner’s use only**

|  |  |  |  |
| --- | --- | --- | --- |
| **Section** | **Questions** | **Maximum Score** | **Candidate’s Score** |
| **A** | **1 – 18** | **30** |  |
| **B** | **19 - 23** | **20** |  |
| **C** | **24** | **20** |  |
| **25** | **20** |  |
| **26** | **20** |  |
| **TOTAL SCORE** | | **90** |  |

**SECTION A [30 MARKS]**

***Answer All The Questions in The Spaces Provided.***

1. State two factors that may cause ewes not to conceive after service. [1 mark]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

1. State three signs of anthrax infection disease observed in the carcass of cattle [11/2 mark]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

1. State three adjustment that should be carried out on a tractor-mounted moldboard plough in preparation for ploughing. [1 ½ mark]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

1. Outline two main characteristics of the Bactrian camel breed. (1 mark)

(i) ………………………………………………………………………………………………

(ii) ………………………………………………………………………………………………

1. State four construction features necessary in a fish pond. [2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

(iv). …………………………………………………………………………………………….

1. State four conditions that would encourage hens to eat eggs in poultry production.[2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

(iv). …………………………………………………………………………………………….

1. What is the reason for turning eggs regularly during incubation? (1 mark)

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

1. State four practices that should be carried out on wooden fencing posts to make them last long. [2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

(iv). …………………………………………………………………………………………….

1. Name four structures which would assist in the control of livestock parasites on a farm.

[2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

(iv). …………………………………………………………………………………………….

1. Give two benefits of providing enough nutrients to livestock for proper health. [1 mark]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

1. Give two harmful effects of ticks in sheep. [2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

1. State four roles of worker bees in a colony. [2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

(iv). …………………………………………………………………………………………….

1. State the role of the crop in digestive system of a hen. [2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

1. State four reasons for castration in pig production. [2 marks]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

(iii) ……………………………………………………………………………………………..

(iv). …………………………………………………………………………………………….

15. State two benefits of guard rails to piglets in a farrowing pen? [1 mark]

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

1. State the role of a foot bath in a cattle Dip. (1 mark)

(i) ……………………………………………………………………………………………….

(ii) ………………………………………………………………………………………………

1. Distinguish between the following practices as used in livestock production.

(a). Crutching and ringing in sheep production. (2 marks)

……………………………………………………………………………………………….

………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………………………………………………………..

(b). Cropping and harvesting in fish farming. (2 marks) ……………………………………………………………………………………………..

…………………………………………………………………………………………….

…………………………………………………………………………………………………………………………………………………………………………………………………..

1. State two characteristics of a poor layer in poultry production. (1 mark)
2. …………………………………………………………………………………………
3. …………………………………………………………………………………………..

**SECTION B [20 MARKS]**

***Answer all questions in this section in the spaces provided.***

1. A pig farmer in sugoi is required to prepare 100kg of sow and weaner meal containing 20% digestible crudeprotein (D.C.P). Calculate the quantity of soya bean (50%) D.C.P) and rice (16% D.C.P) the farmer requires for the meal. Use the Pearson’s square method. (4 marks)

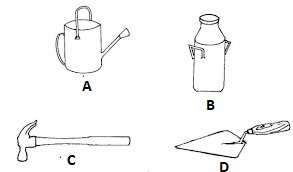
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1. The diagram below represent farm tools and equipment. Study them and answer the questions that follow.



(a). Identify the tool/equipment labelled B and C. (1 mark)

B -

C –

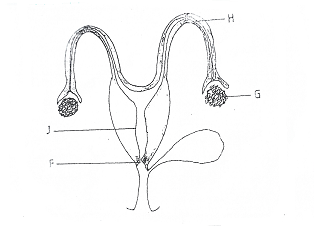
(b). State the role of C and D (2 marks)

C -

D –

(c). Give two maintenance practices for the equipment labelled A. (1 mark)

1. …………………………………………………………………………………………
2. …………………………………………………………………………………………..
3. The diagram below shows the reproductive system of a cow study it carefully and answer the questions that follow.



(a). Name the parts labelled J and G. (2 marks)

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(b). Give two functions of the part labelled F. (2 marks)

1. …………………………………………………………………………………………
2. …………………………………………………………………………………………..

(c). Give the role of the part labelled H. (1 mark)

(i) ……………………………………………………………………………………………….

1. The diagrams K, L, M and N below show four possible ways of drawing milk from the teat of a cow during milking.



(a). Which diagram shows the proper way of drawing milk. (1 mark)

…………………………………………………………………………………………………

(b). How long should I take to milk a cow from the start to the end of milking. (1 mark)

…………………………………………………………………………………………………

(c). How would a milkman ensure that no milk remains in the udder at the end of milking?

(1 mark)

(i) ……………………………………………………………………………………………….

(d). State two disadvantages of using wrong milking method. (2 marks)

(i)……………………………………………………………………………………………….

(ii) ……………………………………………………………………………………………..

1. Below is a table showing names given various livestock animals at various stages of growth. Fill in the Blank spaces. (2 marks)

|  |  |  |  |
| --- | --- | --- | --- |
| Stage | Name | | |
|  | Pigs | Cattle | Poultry |
| Mature male for breeding |  |  | cock |
| Young female before first parturition | Gilt |  | Pullet |
| Young one from birth/hatching to meaning |  | calf | chick |

**SECTION C. (40 MARKS)**

***Answer any two questions in this section in space provided at the back..***

24. (a). Describe the management of growers up to the point of lay. (10 marks)

(b). Describe ten management practices carried out on cattle during parturition. (10 marks)

25. (a). Name the strokes in a four stroke engine and describe how each operates. (12 marks)

(b). Describe the functions of the gear box in a tractor. (8 marks)

26. (a). Name and describe the features of an ideal calf pen. (8 marks)

(b). Discuss pneumonia in calves under the following sub-headings: (i). predisposing factors

(4 marks)

(ii). symptoms (5 marks)

(iii). Control measures. (3 marks)

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