**NAME …………………………………….. DATE ……………………….…………………..……**

**ADMN NO. …………….……….……..…..… CANDIDATE’S SIGNATURE ………..…..………..**

443/2

AGRICULTURE

PAPER 2 (THEORY)

TIME: 2 HOURS

**KENYA HIGH EXAMINTIONS 2021**

***Kenya Certificate of Secondary Education***

443/2

AGRICULTURE

PAPER 2 (THEORY)

TIME: 2 HOURS

**INSTRUCTIONS TO CANDIDATES**

1. Write your name and index number in the spaces provided above.
2. This paper has **THREE** sections: A , B and C
3. Answer **ALL** the questions in section A and B and any **TWO** questions in section C
4. ALL answers **MUST** be written in the spaces provided.
5. Do not remove any pages from this booklet.

**FOR EXAMINER’S USE ONLY**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Questions** | **Maximum score** | **Candidate’s score** |
| A | **01-17** | **30 marks** |  |
| B | **18-22** | **20 marks** |  |
| C | **23-25** | **40 marks** |  |
|  | | **Total score** |  |

**This paper consists of 8 printed pages.**

**Candidates should check to ensure that all pages are printed as indicated and no questions are missing**

**SECTION A (30 MARKS)**

**Answer ALL questions in this section.**

1. State four problems associated with nomadic pastoralism method of farming. **(2 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. State one use of the following tools in the farm. **(2 marks)**
2. Spoke shave

………………………………………………………………………………………………………………

1. Pipe wrench

………………………………………………………………………………………………………………

1. Stock and die

………………………………………………………………………………………………………………

1. Wire strainer

………………………………………………………………………………………………………………

1. Name one exotic dairy cattle breed in Kenya which produces milk with:
2. Highest butter fat content. **(1 mark)**

………………………………………………………………………………………………………………

1. Lowest butter fat content. **(1 mark)**

………………………………………………………………………………………………………………

1. Name two dual purpose breeds of dairy cattle reared in Kenya. **(1 mark)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Name two sources of energy concentrates. **(1 mark)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Using Pearson’s square method, compute a 100kg ration with 20% DCP from sunflower seed cake which contains 10% DCP and simsim seed containing 60% DCP. **(4 marks)**
2. Name three livestock diseases transmitted by ectoparasites. **(1½marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. Name an intermediate host for the following internal parasites. **(2 marks)**
2. Tapeworms

………………………………………………………………………………………………………………

1. Liver flukes

………………………………………………………………………………………………………………

1. Give any two reasons for docking in sheep rearing. **(1 mark)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. State two functions of the queen in a beehive. **(1 mark)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. State three maintenance practices carried out on a piggery unit. **(1½ marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. State four disadvantages of an electrical fence. **(2 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. State four advantages of using a spray race for controlling parasites. **(2 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Give four disadvantages of artificial insemination in livestock production. **(2 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Give any four structural requirements that a calf pen should possess. **(2 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. List two signs of infertility in cows. **(1 mark)**

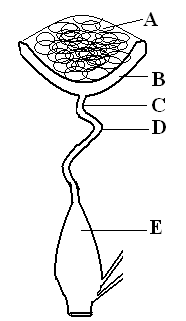
………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Give two methods of introducing vaccines to livestock. **(2 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**SECTION B (20 marks)**

**Answer ALL questions in this section.**

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

1. Name the parts labelled A, B, C, D and E in the diagram. **(2½ marks)**

A………………………………………………………………………………………………………...

B………………………………………………………………………………………………………...

C………………………………………………………………………………………………………...

D………………………………………………………………………………………………………...

E…………………………………………………………………………………………………………

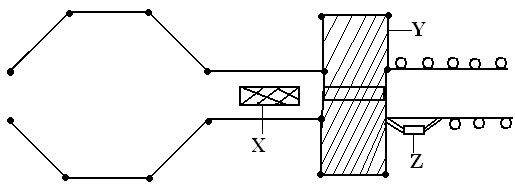
1. State the function of each part. **(2½ marks)**

A………………………………………………………………………………………………………... ………………………………………………………………………………………………………….. B………………………………………………………………………………………………………... ………………………………………………………………………………………………………….. C………………………………………………………………………………………………………... ………………………………………………………………………………………………………….. D………………………………………………………………………………………………………... ………………………………………………………………………………………………………….. E………………………………………………………………………………………………………… …………………………………………………………………………………………………………..

1. Give two reasons why a jersey breed cattle is adapted to arid and semi arid areas. **(2marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. The diagram below represents an aerial view of a farm structure. Study it carefully and answer the questions that follow.



1. Identify the structure. **(1 mark)**

………………………………………………………………………………………………………………

1. Name the parts labeled X, Y and Z. **(3 marks)**

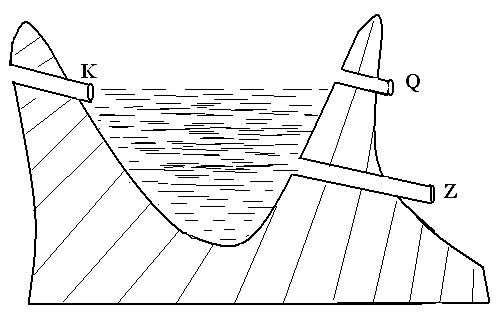
X………………………………………………………………………………………………………...Y………………………………………………………………………………………………………...Z…………………………………………………………………………………………………………

1. List two roles of the part labeled Y. **(2 marks)**

……………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Give two reasons for carrying out hoof trimming. **(1 mark)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. The illustration below is a farm structure.

1. Identify the structure. **(1 mark)**

…………………………………………………………………………………………………………

1. Name the parts labeled K, Q and Z. **(3 marks)**

K………………………………………………………………………………………………………...Q……………………………………………………………………………………………………..….Z…………………………………………………………………………………………………………

1. Give four maintenance practices carried out on the above structure.  **(2 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**SECTION C (40 MARKS)**

**Answer ANY TWO questions in this section**

1. **a)** Give five functions of vitamins in livestock production. **(5 marks)**
2. Describe the importance of colostrum to young animals within the first week of birth. **(10 marks)**
3. Outline five advantages of embryo transplant technology in cattle management. **(5 marks)**
4. **a)** Mention four methods of water harvesting. **(4 marks)**
5. Describe the different types of micro catchments used in water conservation. **(10 marks)**
6. Explain the importance of micro catchments. **(6 marks)**
7. **a)** Outline ten factors to consider when selecting gilt for breeding stock. **(10 marks)**

**b)** Explain the economic importance of parasites to livestock animals. **(10 marks)**

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………