**NAME……………………………………………………..INDEX NO………………………………**

**SCHOOL……………………………….ADM. NO……………………CLASS………………….**

**AGRICULTURE**

**443/2**

**FORM 4**

**DECEMBER 2021**

**TIME 2Hrs.**

**KCSE KENYA CERTIFICATE OF SECONDARY EXAMINATION**

**INSTRUCTIONS TO CANDIDATES**

1. **Write your Name, Index No., School, Admission No. and Class in the spaces provided.**
2. **Write the date of the examination in the spaces provided.**
3. **This paper contains three sections A, B and C.**
4. **Answer all the questions in section A and B and any two questions in section C.**
5. **All answers should be written in the spaces provided in English**
6. **Students should check the question paper to ascertain that all 6the pages are printed as indicated and that no questions are missing.**
7. **For examiners’ use only.**

|  |  |  |  |
| --- | --- | --- | --- |
| **section** | **questions** | **Maximum score** | **Students’ score** |
| A | 1-19 | 30 |  |
| B | 20-23 | 20 |  |
| C | 24 | 20 |  |
|  | 25 | 20 |  |
|  | 26 | 20 |  |
| TOTAL SCORE | | 90 |  |

**This paper contains 12 printed pages**

**SECTION A(30MARKS) ANSWER ALL THE QUESTIONS .**

Q1. State **four** functions of water in the body of livestock animals. **(2marks)**

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Q2. Differentiate between essential and non-essential amino acids.  **(1marks)**

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Q3. Give **two** reasons for turning eggs regularly during incubation? **(1mk)**

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Q4. Name **two** functions of the crop in the digestive system of chicken. **(1mk)**

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Q5. State **four** factors considered when computing a livestock ration. **(2marks)**

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***Q6.*** Why is raddling essential in sheep management? **(1mark)**

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**Q7.** State **four** advantages of battery cage system of poultry rearing. **(2marks)**

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**Q8**. Give a reason why the animal should not be released to the pasture when freshly sprayed with accaricide wash. **(1mk)**

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**Q9.** Name **two** major methods of administrating drugs to livestock.  **(1mark)**

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**Q10.**Outline **four** methods used to handle livestock. **(2marks)**

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***Q.*11**. State two ways in which good nutrition help to control diseases in livestock. ***(1mark)***

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***Q.12.***Give **two** reasons for flushing in sheep.  ***(1mk)***

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***Q.13.*** Give **three** factors that affect the quality of honey.  ***(1 ½ mark)***

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***Q.14***. State **three** conditions that make a cow to withhold milk during milking***.(1 ½ marks)***

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***Q.15.***Name the most appropriate tools used in the following operations. ***(2marks)***

1. Removing metal chipping on a file.**-.....................................................................**
2. Cutting wood along the grain***................................................................................***
3. Branding**................................................................................................................**
4. Detaching honey combs during honey harvesting**...........................................….**

Q.16.State **four** causes of infertility in cows. **(2marks)**

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***Q.17.*** List **four** maintenance practicescarried outon a disc plough. **(2marks)**

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***Q. 18.*** a) Name a protozoan disease that is not transmitted by a vector***. (½ marks)***

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***b***) Name one vector that transmits each of the following diseases. ***(1mark)***

1. Anaplasmosis-**...........................................................................................**
2. East coast fever***-........................................................................................***

***c)*** Define the term quarantine as used in livestock production. **(1/2 marks)**

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***d)*** What is the effect of petroleum jelly smeared on combs and wattles of birds? ***(1mark)***

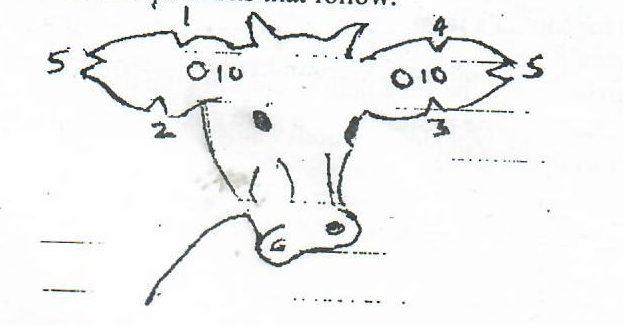
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***Q.19.*** List down **four** short term services practices done on a tractor***. (2marks)***

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***SECTION B(ANSWER ALL QUESTIONS IN THIS SECTION)***

**Q. 20** .The diagram illustrates a method of identification in livestock.



1. Name the type of identification illustrated on the diagram. **(1mk)**

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1. Give the identification number of the animal illustrated on the diagram. (**1mk)**

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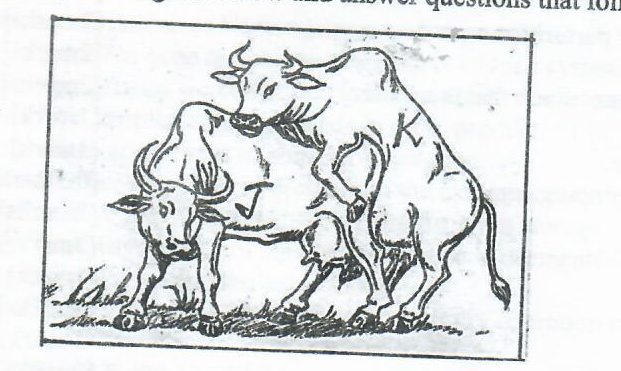
1. using diagram, illustrate how you can identify animal numbers 36 and24.(**2mks)**

|  |  |
| --- | --- |
| **Animal No.24** | **Animal No. 36** |
|  |  |

1. Apart from this method of identification, give t**wo other** methods used in livestock to achieve the same purpose.

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***Q.21****.* Study the diagram below and answer questions that follow.



1. Which of the above cows shows the signs of heat. **(1mark)**

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1. Give **one** reason to confirm your answer (a) above. **(1mark )**

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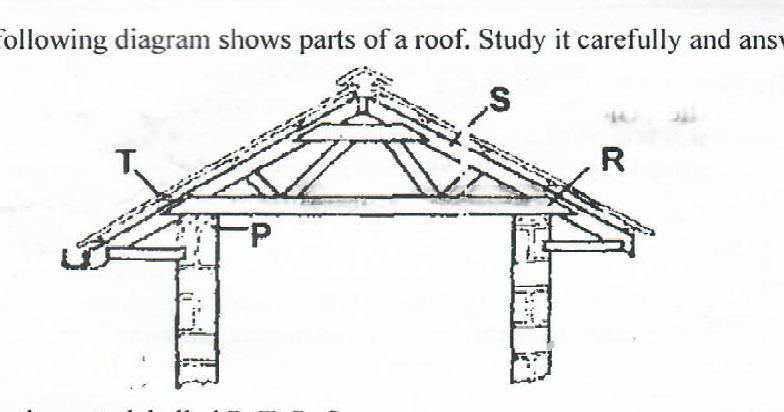
1. State **two** benefits of natural mating system. (**2marks)**

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***d)*** Name a disease that is easily spread by this method of mating. **(1mark)**

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Q.22. The following diagram shows a part of a roof. Study it carefully and answer the questions that follow.



1. Name the parts labelled P, T, R and S. **(2marks)**

**P-......................................................................................................................................**

**T-......................................................................................................................................**

**R-...................................................................................................................................**

**S-....................................................................................................................................**

1. State the functions of P and T. **(2marks)**

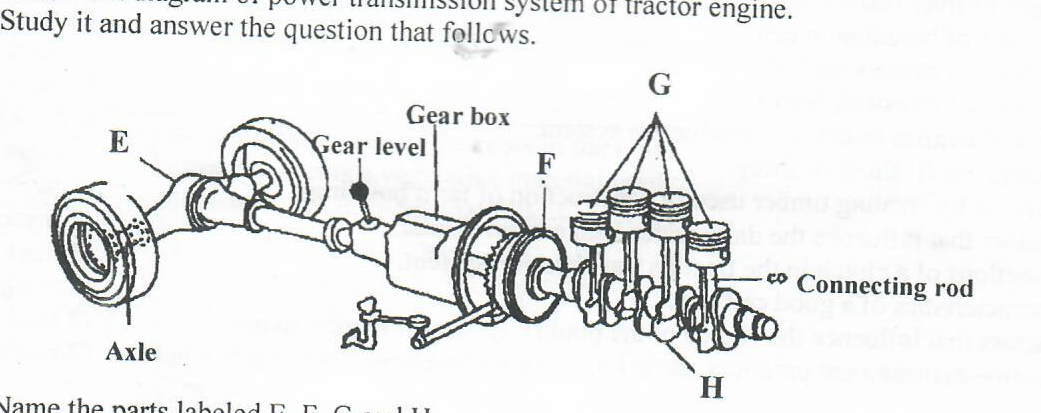
P**-..............................................................................................................................**

T-**................................................................................................................................**

1. Give **two** chemical preservatives for treating timber before use in the construction of farm structures

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***Q.23.*** Below is a diagram of power transmission system of a tractor engine study it and answer the questions that follow.



1. Name the parts labeled E, F, G and H.  ***(2marks)***

***E...................................................................................................................................***

***F...................................................................................................................................***

***G..................................................................................................................................***

***H...................................................................................................................................***

1. State the function of E and H.

***E-...............................................................................................................................***

***H-................................................................................................................................***

1. State **two** precautions when handling farm tools and equipment ***(2marks)***

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**SECTION C -40 MARKS; ANSWER ANY TWO QUESTION IN THIS SECTION**

Q24. a) Describe the life cycle of a three host tick. **(8mks)**

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**b)** Give **three** tools used in construction of a wooden fence stating the use of each.**(3mks)**

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***c)*** State **five** management practices done on an incubator. (**5mks)**

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d) State **four** factors that should be considered when selecting dairy goat for breeding**.(4mks)**

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***Q25.a)*** Explain **any four** factors considered in siting farm buildings and structures***. (8marks)***

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b) Discuss foot-rot disease under the following sub-headings.

1. Predisposing factors **(5marks)**

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1. Symptoms **(3marks)**

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1. Control **(4marks)**

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**Q26.a)** Give **four** functions of a cooling system in a tractor engine.  **(4marks)**

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**b**) Describe **five** management practices carried out on piglets immediately after birth**. (5marks)**

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**c)** Explain **five** factors that affect digestibility of feed in livestock **(5marks)**

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**d**) List **six** limitation of animal power as compared to tractor power. **(6marks)**

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