**NAME………………………………………………...………….……ADM. NO………………….. …………**

**Candidates Signature:……………………………………..**

**Date:…………………………………………..**

**443/1**

**AGRICULTURE**

**Paper 1**

**Time: 2 hours**

**Kenya Certificate of Secondary Education**

**AGRICULTURE**

**PAPER 1**

**2 HOURS**

**INSTRUCTIONS TO CANDIDATES**

1. **Write your name and Adm. Number in the spaces provided above.**
2. **Sign and write the date of examination in the spaces provided above.**
3. **This paper consists of three sections A, B and C**
4. **Answer all the questions in section A and B**
5. **Answer any two questions in section C**
6. **All answers should be written in the spaces provided.**
7. **This paper consists of 8 Printed pages**
8. **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

**For Examiner’s use only**

|  |  |  |  |
| --- | --- | --- | --- |
| **Section**  | **Questions**  | **MAXIMUM SCORE** | **CANDIDATE’S SCORE** |
| **A** | **1 - 16** | **30** |  |
| **B** | **17 - 19** | **20** |  |
| **C** | **40** |  |
|  |  |
| **Total Score** |  | **90** |  |

**SECTION A (30 marks)**

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

1. State **four** characteristics of shifting cultivation (2 marks)

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1. Give **four** reasons why a well drained soil is suitable for crop production (2 marks)

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1. State **four** factors which determine the depth of ploughing (2 marks)

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1. State **three** advantages of overhead irrigation over surface irrigation (11/2 marks)

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1. a)State the law of demand (1 mark)

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b) State **four** factors that determine the demand of a commodity in a free

 Market economy (2 marks)

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1. state **four** ways in which plant nutrients may be lost from the soil (2 marks)

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1. a)**Differentiate** between macro nutrients and micro nutrients (1 mark)

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b) State **four** functions of calcium in plant growth and development (2 marks)

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1. **Explain** the following terms as used in farm account (4 marks)
2. Cash account

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

1. Ledger

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

1. Balance sheet

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

1. Purchase order

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

1. State **four** factors that influence spacing when planting a pure stand maize (2 marks)

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1. State **four** reasons for pruning fruit crop (2 marks)

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1. State **four** ways by which a farmer can make efficient use of pasture crop (2 marks)

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1. List **four** characteristics of a good root stock for grafting (2 marks)

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1. Give **four** factors to consider when grading tomatoes for fresh market (2 marks)

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1. Give **three** ways through which checkdams control soil erosion (11/2 marks)

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1. State **two** uses of gross margin analysis in farm business (1 mark)

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**SECTION B**

***Answer all the questions in the spaces provided***

1. The diagrams illustrated below shows arable weeds. Study them carefully and answer the questions that follow



B

A

1. Identify the weeds A and B (2 marks)

A……………………………………………………………………………………………………………………………B……………………………………………………………………………………………………………………………

1. Why is it difficult to control weeds A and B (2 marks)

A……………………………………………………………………………………………………………………………B……………………………………………………………………………………………………………………………

1. List **three** economic importance of the weeds illustrated above (3 marks)

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1. The diagram shows a pest that attacks beans in the field. Study it carefully and answer the questions that follow.



1. Identify the pest illustrated above (1 mark)

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1. List **three** cultural methods of controlling the pest illustrated above (3 marks)

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

1. State **two** other pest that attack beans in the field (2 marks)

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1. The diagram below illustrates an agroforetsry practice. Study it carefully and answer the questions that follow.
2. Identify the agroforestry practice illustrated above (1 mark)

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1. List **three** benefits of the above agroforestry practice (3 marks)

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1. State **three** sites for agroforestry trees (3 marks)

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**SECTION C**

***Answer ONLY two questions in this section in the spaces provided after the questions***

1. a) Give **four** examples of joint products in livestock production (4 marks)

b) List **four** variable inputs in poultry production (4 marks)

c) A farmer can combine dairy meal and homemade feeds as shown below

|  |  |  |
| --- | --- | --- |
| Dairy meal (Kg) | Homemade feed (Kg) | Marginal rate of substitution |
| 1 | 48 | O |
| 2 | 39 | V |
| 3 | 32 | 7 |
| 4 | 27 | W |
| 5 | 23 | 4 |
| 6 | 21 | X |
| 7 | 20 | 1 |
| 8 | 19 | Y |

1. Given the above information calculate the marginal rate of substitution and give values of V,W,X and V (4 marks)
2. Given that of homemade feeds is Ksh 800 per kilogram and that of homemade feeds is Ksh 200 per kilogram. Calculate the least cost combination(4 marks)
3. Outline **four** activities that may be undertaken in organic farming (4 marks)
4. a)State and explain **five** roles of agriculture in economic development of Kenya (5 marks)

b) Describe measures which should be taken to minimize water pollution on a

 farm (10 marks)

c) State and **explain** the various land tenure systems practiced in Kenya (5 marks)

1. a) Outline **six** management practices that should be carried out on a vegetable nursery after sowing seeds until the seedlings are ready for transplanting (6 marks)

b) Explain **four** precautions that should be observed when harvesting cotton (4 marks)

c) Explain **five** ways in which the Kenyan government can improve maize production to ensure food security in the country (10 marks)

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