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

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

443/1

AGRICULTURE

PAPER 1 (THEORY)

OCTOBER / NOVEMBER 2013

TIME: 2 HOURS

**KATHIANI SUB - COUNTY**

**FORM FOUR ENTRANCE EXAMINATION**

*Kenya Certificate of Secondary Education*

443/1

AGRICULTURE

PAPER 1 (THEORY)

TIME: 2 HOURS

**INSTRUCTIONS TO CANDIDATES**

1. Write your name and index number in the spaces provided above.
2. This paper consists of **THREE** sections: A , B and C
3. Answer **ALL** the questions in sections 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**

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| --- | --- | --- | --- |
|  | **Questions** | **Maximum score** | **Candidate’s score** |
| A | **01-18** | **30 marks** |  |
| B | **19-23** | **20 marks** |  |
| C | **24-26** | **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 in the spaces provided.**

1. State four methods of acquiring land in Kenya. (2 Marks)

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1. Write down four edaphic factors which influence Agriculture. (2 Marks)

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1. a) Explain the term marcotting as it is used in vegetative propagation. (1 Mark)

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b) Give any four benefits of grafting to an avocado farmer. (2 Marks)

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4. a) Give four characteristics of a fertile soil. (2 Marks)

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b) State two reasons for carrying out a soil test. (1 Mark)

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5. a) List four economic importance of crop pests. (2 Marks)

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 b) Explain the term integrated Management – I.P.M (1 Mark)

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6. List two aspects of light that influence crop growth. (1 Mark)

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7. State four benefits for minimum tillage. (2 Marks)

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8. a) List four types of terraces. (2 Marks)

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 b) Give four methods that could be used to drain farmland. (2 Marks)

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9. State two importance of tissue culture in crop propagation. (1 Mark)

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10. State the conditions under which opportunity cost is zero in a farming enterprise. (1 Mark)

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

11. State four source of Nitrogen in the soil for plants. (2 Marks)

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12. Give two benefits of possessing a land title-deed to a farmer. (1 Mark)

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13. a) State four factors that determine the quality of silage. (2Marks)

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 b) Outline three reasons of conserving forage. (1½Marks)

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14. Explain the following terms. (1½Marks)

 i) Seed dressing

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

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

 ii) Seed inoculation

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

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 iii) Chitting.

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

**Section B (20 Marks)**

**Answer ALL the questions in the spaces.**

15. a) Define the term soil sampling. (1 Mark)

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

 b) The diagram below represents two methods of soil sampling.

 N M

1. Identify the methods N and M (1 Marks)

 N - …………………………………………………………………………………

 M - …………………………………………………………………………………

 ii) State the precautions observed when carrying out the practices in diagrams N and M. (1½Marks)

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

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

 

1. Identify the crop represented by the diagram. (1 Mark)

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1. Apart from damage by birds, name two other serious pests which can attack the above named crop while still in the field. (2 Marks)

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

1. Give two effective methods used in controlling birds in a field planted with the above named crop. (2 Marks)

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1. The crop identified above can be grown by dairy farmers as forage. Give two reasons why the crop should be harvested for making silage just before the flowering stage. (2 Marks)

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

17. A farmer is to apply a compound fertilizer 20:30:10 on a vegetable plot measuring 5 M long 5 wide, at

 the rate of 200kg per hectare.

 Calculate the amount of fertilizer the farmer would require for the plot. (Show your working) (3Marks)

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18. The diagram below illustrates a method of crop propagation.

 

1. Identify the method of propagation represented by the drawing above ( ½ Mark)

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1. State the importance of the method of propagation illustrated above. (1 Mark)

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1. Explain why a cut or tongue should be made on the bark of the part buried bellow the ground level (1 Mark)

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

(d) Outline four factors which influence rooting of cuttings. (4 Marks)

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 **Section C (40 Marks)**

 **Answer any TWO questions.**

19. a) Describe the benefits of using organic matter for mulching. (10 Marks)

 b) Outline five factors that determine the quality of farmyard manure. (6 Marks)

 c) Give four disadvantages of using farmyard manure. (4 Marks)

20. a) Explain six factors that influence crop rotation. (6 Marks)

 b) Describe the post-harvesting practices that should be carried out on cereals crops before storage. (6 Marks)

 c) Describe the preparations carried out on a store before storing farm produce. (4 Marks)

 d) Explain how a farmer should manage a banana stool for high yields. (4 Marks)

21. a) List various methods of harvesting water in a farm. (5 Marks)

 b) Outline farming activities which may encourage soil erosion. (5 Marks)

 c) Explain how various farming practices would help to conserve soil in a farm. (10 Marks)

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