 **MARANDA HIGH SCHOOL**

**Kenya Certificate of Secondary Education**

**MOCK EXAMINATIONS 2022**

**443/1 Agriculture Paper 1**

**September, 2022 Time: 2 Hours**

**Name**: ………………………………………….…….…… **Adm** **No**: ………………

**Class**: ………………**Candidate’s** **Signature**: ………..…….. **Date: 6th September, 2022.**

**Time: 7.00-9.00 AM**

**INSTRUCTIONS TO CANDIDATES**

* *Write your name, index number, admission number and class in the spaces provided.*
* *Sign and write the date in the spaces provided above.*
* *Answer* ***all*** *the questions in section A and B.*
* *Answer any* ***two*** *questions in section C.*
* *Answers should be written in the spaces provided.*

FOR EXAMINERS USE ONLY

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| --- | --- | --- | --- |
| **SECTIONS** | **QUESTIONS** | **MAXIMUM SCORE** | **CANDIDATES SCORE** |
| **A** | **1-20** | **30** |  |
| **B** | **21-24** | **20** |  |
| **C** |  | **20** |  |
|  | **20** |  |
| **TOTAL** |  | **90** |  |

**SECTION A: (30 marks)**

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

1. List **two** disadvantages of small scale farming. (1 mark)

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2. Name **two** ways by which predators affect agricultural production. (1 mark)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..3. Name the role of each of the following chemicals in water treatment.

1. Alum (½ mark) ………………………………………………………………………………………………………
2. Soda ash (½ mark) ………………………………………………………………………………………………………

4. State **two** ways in which crop rotation controls weeds. (1 mark)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..5. State **four** characteristics of a good vegetable seedling. (2 marks)

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

6. Name **two** forms of horticulture practised in Kenya. (1 mark)

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

7. State **two** mechanical methods of separating soil particles, according to size, during soil analysis.

(1 mark)

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

8. State **four** reasons why a nursery is important in crop production. (2 marks)

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9. Name the part used for vegetative propagation of each of the following plants. (2 marks)

1. Cassava ……………………………………………………………………………………………...
2. Sisal …………………………………………………………………………………………….........
3. Pyrethrum …………………………………………………………………………………………...
4. Sweet potatoes ……………………………………………………………………………………...

10. State **four** reasons for applying phosphatic fertilizers during planting. (2 marks)

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11. Give **two** reasons for testing soil. (2 marks)

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

12. State **four** management practices undertaken to improve natural pastures. (2 marks)

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

13. State **four** qualities of certified seeds. (2 marks)

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

14. Name **four** classes of weeds. (2 marks)

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

15. State **three** causes of land fragmentation in Kenya today. (1½ marks)

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16. State any **three** organic farming practices. (1½ marks)

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17. What is meant by the term production function? (1 mark)

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

18. What is meant by the term integrated pest management? (1 mark)

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

19. Give **three** examples of fixed costs in maize production. (11/2 marks)

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

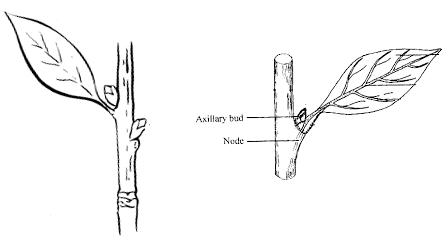
20. State **three** factors that determine the choice of water pipes used on the farm. (11/2 marks)

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**SECTION B (20 MARKS)**

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

21. The diagram below shows a section of plant from which the planting material illustrated was obtained.



1. Identify the planting material illustrated. (1 mark)

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

1. Give **two** reasons why only the middle part of the plant was used to prepare the planting material.

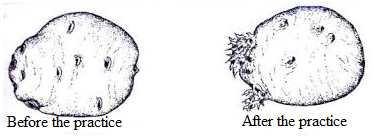
(1 mark)

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

1. Apart from using the middle part of the plant, explain **three** precautions that should be observed when preparing the illustrated planting material. (3 marks)

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22. The diagram below illustrates seed potato which has been prepared for planting. Study it carefully and answers the questions that follow.



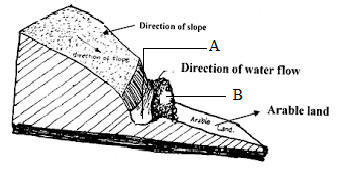
1. Name the practice that has been used to prepare the seed potato above for planting. (1 mark)

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1. Describe the procedure followed in preparing seed potatoes for planting. (4 marks)

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

23. The diagram below illustrates a newly constructed cut-off drain. Study it carefully and answer the questions that follow.



i) Identify the parts of cut off drains labeled A and B. (2 marks)

A ……………………………………………………………………………………………………

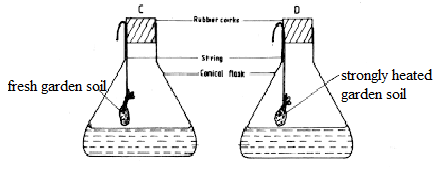
B ……………………………………………………………………………………………………..

ii) How can the part of the structure labeled B be stabilized after it has been constructed? (2 marks)

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

iii) State any **one** factor that would determine the width and depth of the cut-off drain. (1 mark) ………………………………………………………………………………………………………

24. The diagrams below show a set up of an experiment to study an aspect of soil. The set up was left undisturbed for five hours. Study it and answer the questions that follow.



1. What was the aim of the experiment? (1 mark)

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

1. State **one** observation that was made in each of the flasks labelled C and D. (2 marks)

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

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

1. Give a reason for each of your answers in (b) above. (2 marks)

C …………………………………………………………………………………………………… ………………………………………………………………………………………………………………………………………………………………………………………………………………

D …………………………………………………………………………………………………… ………………………………………………………………………………………………………………………………………………………………………………………………………………

**SECTION C (40MARKS)**

**Answer any two questions from this section in the spaces provided after question 27.**

25 a) Explain **seven** factors that should be considered when selecting seeds for planting. (7 marks)

b) State **four** benefits of adequate and reliable rainfall in vegetable crop production. (4 marks)

c) Explain **four** factors that determine the nutrient content of hay. (4 marks)

d) State **five** reasons for keeping farm records. (5 marks)

26a) State the importance of any **five** nursery management practices. (5 marks)

b) Explain **seven** cultural methods of soil and water conservation. (7 marks)

c) Describe the role of magnesium in crop production. (4 marks)

d) Describe **four** practices that a farmer should carry out to ensure uniform germination of seeds.

(4 marks)

27 a) Explain **five** factors that determine the spacing of crops. (5 marks)

b) Explain **five** factors that may encourage soil erosion. (5 marks)

c) Describe **five** management practices that should be carried out on a vegetable nursery after sowing seeds until the seedlings are ready for transplanting. (5 marks)

d) State **five** soil factors that should be considered when selecting a crop to grow in an area. (5 marks)

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

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