



# MARANDA HIGH SCHOOL

## Kenya Certificate of Secondary Education MOCK EXAMINATIONS 2021

**443/1**

**AGRICULTURE**

**Paper 1**

**December 2021 – TIME 2 Hours**

Name: ..... Adm No: .....

Class: ..... Candidate's Signature: ..... Date: ...../12/2021.

### 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 EXAMINER'S USE ONLY

SECTIONS	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
<b>A</b>	<b>1-17</b>	<b>30</b>	
<b>B</b>	<b>18-21</b>	<b>20</b>	
<b>C</b>		<b>40</b>	
		<b>40</b>	
<b>TTOAL</b>		<b>90</b>	

**SECTION A: (30 marks)****Answer all questions in this section in the spaces provided.**

1. State **four** disciplines that confirm agriculture to be a science. (2 mks)
  - i) .....
  - ii) .....
  - iii) .....
  - iv) .....
2. Give **four** aspects of rainfall that determine the type of crop grown by the farmer. (2 mks)
  - i) .....
  - ii) .....
  - iii) .....
  - iv) .....
3. State **two** physical properties of soil that enable it to support plant life. (2 mks)
  - i) .....
  - ii) .....
4. Highlight **four** precautions one must take into account when using herbicides to prevent environmental pollution. (2 mks)
  - i) .....
  - ii) .....
  - iii) .....
  - iv) .....
5. Outline **four** factors that contribute to the competitive ability of weeds. (2 mks)
  - i) .....
  - ii) .....

iii) .....

iv) .....

6. Outline **four** characteristics of plants used as green manure. (2 mks)

i) .....

ii) .....

iii) .....

iv) .....

7. Name **four** types of pumps used to lift water from its source on the farm. (2 mks)

i) .....

ii) .....

iii) .....

iv) .....

8. Outline **four** information contained in an invoice. (2 mks)

i) .....

ii) .....

iii) .....

iv) .....

9. Outline **two** environmental factors that affect selectivity and effectiveness of herbicides.

(1 mk)

i) .....

ii) .....

10. Highlight **two** deficiency symptoms of nitrogen in a maize crop. (1 mk)

i) .....

ii) .....

11. Name **four** methods of harvesting trees in agroforestry. (2 mks)

i) .....

ii) .....

iii) .....

iv) .....

12. State **four** factors considered when classifying crop pests. (2 mks)

i) .....

ii) .....

iii) .....

iv) .....

13. Agriculture promote the growth of industries in Kenya, give **three** reasons to qualify this statement. (1½ mk)

i) .....

ii) .....

iii) .....

14. Give **three** reasons why minimum tillage is practiced. (1½ mk)

i) .....

ii) .....

iii) .....

15. Distinguish economic injury level and integrated pest management as used in pest control

(2 mks)

- i) .....
- ii) .....
- iii) .....
- iv) .....

16. State **four** methods of harvesting water on the farm.

(2 mks)

- i) .....
- ii) .....
- iii) .....
- iv) .....

17. Outline **two** sites of agroforestry trees.

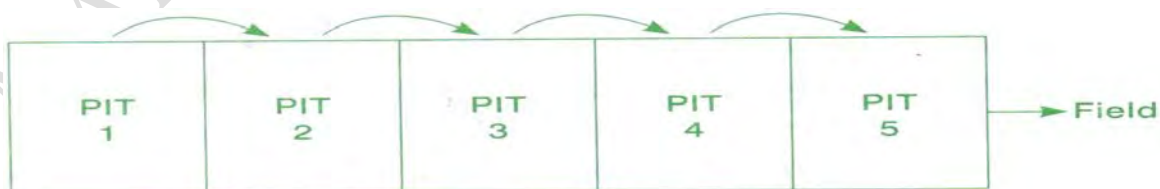
(1 mk)

- i) .....
- ii) .....

**SECTION B (20 MARKS)**

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

18. The following diagram shows a certain method of preparing compost.



(a) Identify the method.

(1 mk)

.....

(b) Give **two** factors that, should be considered when siting a compost pit. (2 mks)

i) .....

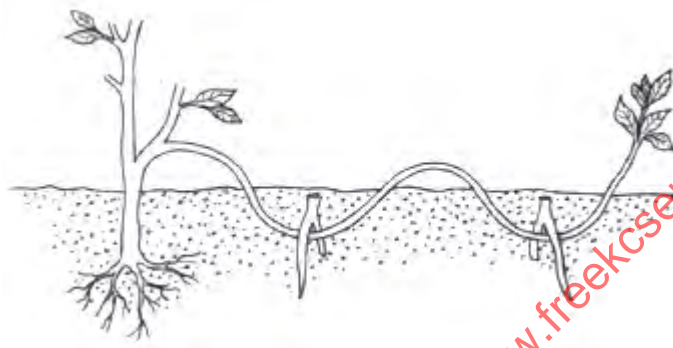
ii) .....

(c) State **two** factors that determine the time manure is ready for use on the field. (2 mks)

i) .....

ii) .....

19. The diagram below shows a method of crop propagation.



(a) Identify the method. (1 mk)

.....

(b) State **one** advantage of the above method over the other methods of crop propagation.

(1 mk)

.....

(c) State **three** factors which influence the rooting of hardwood cutting of vegetation propagation. (3mks)

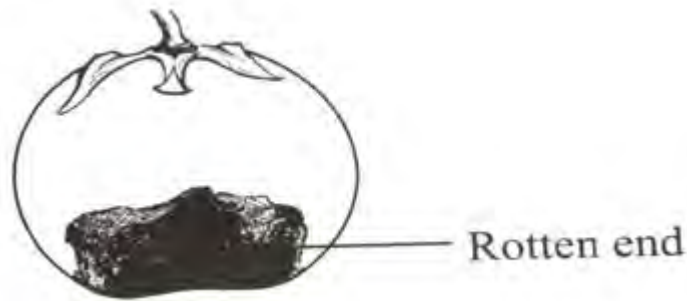
i) .....

ii) .....

iii) .....

iv) .....

20. The figure below shows a disease affecting field crop.



(a) Name the disease. (1 mk)

.....

State **two** conditions that predispose tomato plant to the above disease. (2 mks)

i) .....

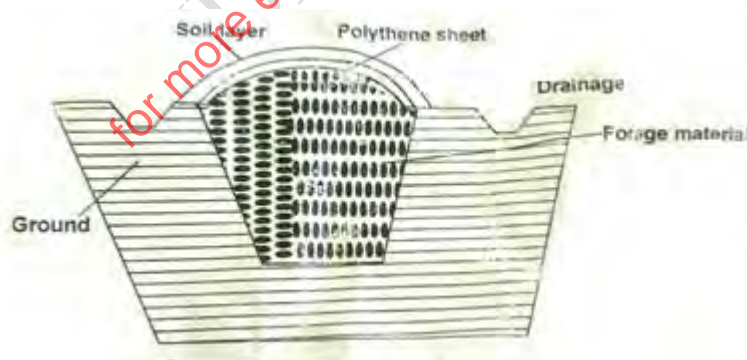
ii) .....

(b) Suggest **two** possible ways of controlling the above disease. (2 mks)

i) .....

ii) .....

21. The diagram below shows a method of forage preservation



a) Identify the structure above (1 mk)

.....

b) State the form in which forage is preserved as illustrated above. (1 mk)

.....

c) Give the role played by each of the following in the structure above.

i) Polythene sheet (1 mk)

.....

ii) Drainage (1 mk)

.....

d) Name another method of forage conservation other than the one shown above. (1 mk)

.....

### **SECTION C: (40 marks)**

**Answer any two questions from this section in the spaces provided after question 26.**

22. (a) Explain **four** factors considered in designing a crop rotation programme (8 marks)

(b) Describe **five** benefits of intercropping food crops. (5marks)

(c) Outline **seven** post-harvest practices carried out in the production of maize (7marks)

23. a) i.) What is a partial budget (1 marks)

ii) Mr. Owino has 4 hectares of arable land, 1.5 hectare of which is under wheat, 0.5 hectare under maize, 0.3 hectare under fodder crops and the rest is under either improved grass ley or natural grass. He wishes to know whether replacing 0.3 ha of maize with potatoes the following season would be worthwhile. The fertilizer rate would have increased from 2 bags per hectare for maize to 2.5 bags per hectare for potatoes, an extra 40 days of casual labour per hectare would be necessary as a result of the change. Average yields of maize and potatoes are 56 and 90 bags per hectare respectively. The



prices are Kshs 1200 per bag of maize and Kshs 300 per bag of potatoes, seed costs are Kshs 1350 per 10 kg of maize and Kshs 200 per 50 kg of potatoes. DAP fertilizer costs Kshs. 1400 per 50 kg bag. Labour is paid at Kshs 150 per man day. He would require 10 bags of potatoes seed and 1 bag of maize seed to cover 0.3 of a hectare. Draw up a partial budget and indicate the effect of the change (7 marks)

iii) What advice would you give this farmer (1 mark)

b) State different ways through which farmers may adjust to risks and uncertainties (5 marks)

c) Explain **seven** cultural measures used in control of soil erosion (7 marks)

24. a) Describe under-sowing as a method of establishing grass pasture in maize plantation.

(5 marks)

b) Discuss five negative effects of wind to crops (5 marks)

c) Describe the production of Dry beans (*Phaseolus vulgaris*) under the following sub headings

i) Varieties (3 marks)

ii) Land preparation (3 marks)

iii) Harvesting (4 marks)

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