

Name Index No.

443/1

Candidates signature

AGRICULTURE

Paper 1

Date

July/August 2013

Time 2 hours

MERU COUNTY FORM 4 JOINT EVALUATION

Kenya Certificate of Secondary Education

AGRICULTURE

Paper - 443/1

July/August 2013

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- This paper consists of THREE sections A, B and C
- Answer ALL questions in sections A and B and any other Two questions in section C.
- All answers must be written in this booklet.
- Do not remove any pages from this booklet.

EXAMINER'S USE ONLY

Section	Question	Max Score	Candidate's score
A	1 - 19	30	
B	20 - 23	20	
C		20	
		20	
Total score		90	

This paper consists of 12 printed pages

Candidates should check the question paper to ensure that all the printed pages are printed as indicated and no questions are missing.

SECTION A - 30 marks

Answer ALL the questions in this section in the spaces provided.

1. State two ways in which agriculture contributes to industrial development. (1 mark)

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2. Give three forms in which soil water exist. (1½ marks)

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3. Outline four activities that may be undertaken in organic farming. (2 marks)

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4. a) What is opportunity cost? (½ mark)

- b) Give two instances when opportunity cost is zero. (1 mark)

.....

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5. State two causes of hard pan in crop field. (1 mark)

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6. Give two ways in which soil pH_3 can be raised to $pH_{6.5}$. (1 mark)

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7. List three classifications of farm credit according to the repayment periods. (1½ marks)

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8. Differentiate between chitting and seed inoculation. (2 marks)

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9. State two factors which influence the choice in irrigation. (1 mark)

10. Outline four benefits derived from trees used in agroforestry. (2 marks)

11. List four factors that may influence the supply of a commodity in a market. (2 marks)

12. Distinguish between hybrid and composite as used in maize production. (2 marks)

13. State four ways in which pruning would help to control diseases in tomatoes. (2 marks)

14. Give four objectives of land settlement and resettlement in Kenya. (2 marks)

15. Outline four effects of soil erosion. (2 marks)

16. State the use of each of the following financial document.

(2 marks)

- i) Invoice.....
.....
.....
- ii) Cash receipt.....
.....
.....
- iii) Delivery note.....
.....
.....
- iv) Purchase order (LPO).....
.....
.....

17. Name three types of production functions.

(1½ marks)

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18. State three reasons why weeds out compete crops in the fields.

(1½ marks)

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19. Give two reasons for erecting a shade over a vegetable nursery bed.

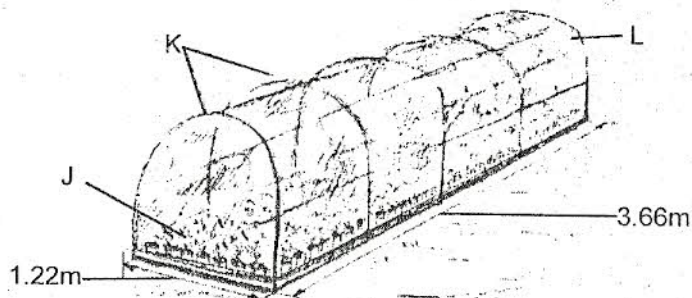
(1 mark)

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Section B (20 marks)

Answer ALL the questions in the spaces provided.

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



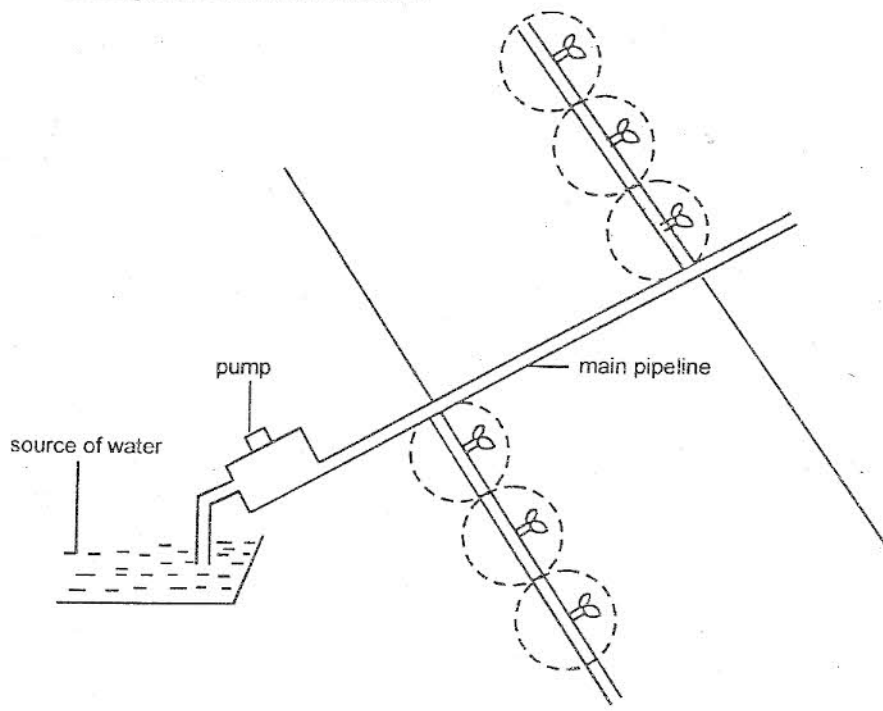
a) Identify the above structure.

(1 mark)

-

- b) Name the parts labelled J, K, and L. (1½ marks)
- J
- K
- L
- c) State one use for each of the parts labelled K and L. (2 marks)
- K
-
- L
-
- d) Name one crop propagated using the above structure. (½ mark)
-

21. Study the method of irrigation illustrated below.



- i) Identify the method of irrigation. (1 mark)
-
- ii) List four factors that are considered when choosing the above method of irrigation. (2 marks)
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iii) State two disadvantages of the method illustrated above.

(2 marks)

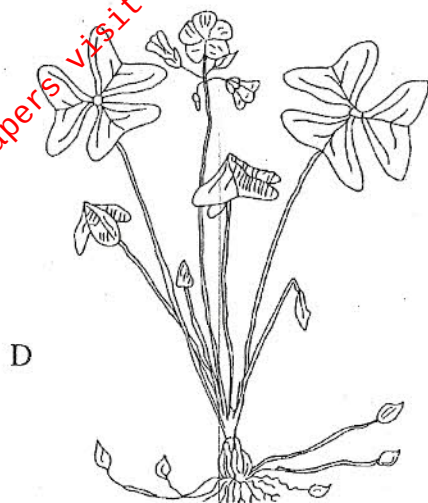
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22. The diagrams below show some common weeds found in arable land. Study them and answer questions that follow.



i) Identify the weeds D and E.

(1 mark)

D

E

ii) Give one difficulty encountered when controlling each of the weeds.

(2 marks)

D

E

iii) Name two herbicides used to control the weeds.

(2 marks)

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23. During the project work each student was allocated a plot measuring 4m × 3m. It was required that a space of 30cm was to be left all around the plot. Students were to plant cabbages at a spacing of 60cm × 60cm.

i) How many lines did each student prepare across his plot (i.e. a long 4m side)

(1 mark)

$$\frac{3.4m}{0.6m} + 1 = 5.6 + 1 = 7$$

.....

ii) Determine the total number of cabbage seedlings that each student planted. (2 marks)

iii) Name two fertilizers that can be used to topdress cabbage crop grown in the plot (2 marks)

Section C (40 marks)

Answer any TWO questions in this section in the spaces provided.

24. a) Describe factors influencing crop rotation. (12 marks)

b) Give four factors that influence the size of a silo for ensiling. (4 marks)

c) Give four advantages of preserving forage as silage instead of hay. (4 marks)

25. a) Describe various biotic factors influencing agricultural production. (10 marks)

b) Describe maize production under the following subheadings.

i) Land preparation (3 marks)

ii) Planting (4 marks)

iii) Field management practices. (3 marks)

26. a) Define the term partial budget. (1 mark)

b) Draw a layout of a partial budget for Mr. Muguna's farm. (9 marks)

c) i) Use the data from the table below to answer the questions that follow. Effect of labour input on maize yields in Kg/ha.

Units of labour	Maize yield in kg
0	0
1	640
2	1800
3	3000
4	3600
5	3700
6	3600

$$\begin{array}{r} 3700 \\ 3600 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 640 \\ 1800 \\ 3000 \\ \hline 640 \\ - 1160 \end{array}$$

$$\begin{array}{r} 3000 \\ 3600 \\ \hline 6000 \end{array}$$

$$\begin{array}{r} 3000 \\ 1800 \\ \hline 200 \end{array}$$

37

i) Calculate the marginal product between 4 and 5 units of labour input. (2 marks)

ii) Calculate marginal products of labour between 5 and 6 units of labour inputs. (2 marks)

iii) Explain the difference between marginal products in (i) and (ii) above. (2 marks)

iv) State the law of diminishing returns. If a successive unit of one input is added to other fixed inputs, the increase in output will eventually diminish. (2 marks)

v) Name two types of farmers cooperative societies. (2 marks)

Fixed input capital is higher where subsector.

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