THE KENYA NATIONAL EXAMINATIONS COUNCIL
Kenya Certificate of Secondary Education

443/1 **AGRICULTURE (Theory)** **Paper 1**

Nov. 2023 - 2 hours

Name: .... Index Number: ....

Candidate's signature: .... Date: ....

Instructions to Candidates

(a) Write your name and index number in the spaces provided above.

(b) Sign and write the date of the examination in the spaces provided above.

(c) This paper consists of **three** sections; **A, B** and **C.**

(d) Answer **all** the questions in sections **A** and **B.**

(e) Answer any **two** questions in section **C.**

(f) All answers should be written in the spaces provided.

(g) Non-programmable silent electronic calculators may be used.

(h) **This paper consists of 16 printed pages.**

(i) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

(j) **Candidates should answer the questions in English.**

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1 - 15	30	
B	16 - 19	20	
C		20	
		20	
Total Score		**90**	

SECTION A (30 marks)

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

1   State **four** roles of agroforestry trees in soil and water conservation.   (2 marks)

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2   State **four** factors that determine spacing in crop production.   (2 marks)

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3   Give **four** reasons why organic farming is important.   (2 marks)

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4   State **four** advantages of applying nitrogenous fertilizers in splits.   (2 marks)

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5   State **four** factors which limit a farmer's access to agricultural credit.   (2 marks)

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6   Name **four** sources of surface water.   (2 marks)

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7   Give **four** reasons why land consolidation should be undertaken in densely populated areas.

(2 marks)

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8   Give **four** reasons why maize farmers should control strong wind in their crop fields.

(2 marks)

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9   State **four** aspects of rainfall that influence coffee farming.   (2 marks)

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10 State **four** reasons why a farmer should avoid excess nitrogenous fertilizer in tomato production.   (2 marks)
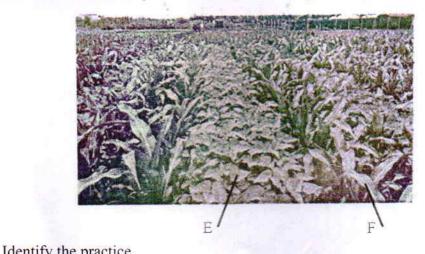
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11 State **four** disadvantages of using suckers as planting materials. (2 marks)

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12 Give **four** ways of breaking seed dormancy. (2 marks)

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13 State **four** factors considered when selecting stem cuttings for planting cassava. (2 marks)

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14 Give **four** reasons for sub-soiling in land preparation. (2 marks)

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15 State **four** methods of treating water for use on the farm. (2 marks)

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SECTION B (20 marks)

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

16   The picture below shows the practice a farmer used to grow crops.

(a)   Identify the practice.   (1 mark)

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(b)   State **two** factors that determine the selection of the crop labelled **E**.   (2 marks)

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(c)   Give **two** ways in which the crop labelled **F** benefits from the practice   (2 marks)

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17   A tomato crop infected by a disease shows the following symptoms:

- dry brown lesions on stems, leaves and fruits;
- fruits appear rotten and fall prematurely.

(a)   Identify the disease.   (1 mark)

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(b)   Name the causal organism of the disease.   (1 mark)

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(c)   Give **three** control measures for the disease.   (3 marks)

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18   The following is a picture showing a sorghum plant infested by a pest.

(a)   Identify the pest.   (1 mark)

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(b)   Give **two** reasons for your answer in (a).   (2 marks)

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....

(c)   State **two** control measures for the pest.   (2 marks)

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19 The following is a picture showing a pasture crop infested by a weed.

(a) Identify the weed. (1 mark)

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(b) Give **three** effects of the weed on the pasture crop. (3 marks)

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(c) State the appropriate growth stage at which the weed should be controlled. (1 mark)

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SECTION C (40 marks)

*Answer any **two** questions from this section in the spaces provided after question 22.*

20 (a) Explain **six** factors considered when designing a crop rotation programme. (6 marks)

(b) Explain **four** control measures of river bank erosion. (4 marks)

(c) Explain **two** ways in which each of the following factors influences crop production:

   (i) relative humidity; (2 marks)
   (ii) light; (2 marks)
   (iii) temperature. (2 marks)

(d) Give **four** roles of 4-K clubs in Kenya. (4 marks)

21   (a)   Describe **ten** ways in which farmers who grow beans can cope with risks and uncertainties.   (10 marks)

       (b)   Explain **ten** factors that influence soil erosion.   (10 marks)

22   (a)   Give **five** pieces of information kept in feeding records on a dairy farm.   (5 marks)

       (b)   Describe the field management practices for cabbage production.   (9 marks)

       (c)   Give **six** benefits of establishing onions using a nursery bed instead of direct sowing.   (6 marks)