1405/311
CROP PRODUCTION
June/July, 2006
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

GENERAL AGRICULTURE CRAFT

CROP PRODUCTION

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:-

Answer booklet.
A pencil and a rubber.

*This paper consists of **TWO** Sections; **A** and **B**.*
*Answer **all** the questions in Section **A** and any **FOUR** questions from Section **B**.*
*Each question in Section **A** carries 4 marks, while each question in Section **B** carries 15 marks.*

This paper consists of 4 printed pages

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

Turn over

6 June/July 2006

SECTION A (40 marks)

*Answer **ALL** questions in this Section.*

1. State **FOUR** reasons for mulching.

(4 marks)

2. Explain the purpose of the following practices in onion production.

   (a) Breaking necks.
   (b) Unearthing.

(4 marks)

3. (a) (i) Define the term curd as used in vegetable production.

(1 mark)

   (ii) Name the banana suckers that have just emerged at the soil surface level of the stem.

(1 mark)

   (b) Describe pricking out procedure in crop propagation.

(2 marks)

4. (a) Give the botanical names of the following crops.

   (i) Carrot.
   (ii) Mango.
   (iii) Tomato.
   (iv) Maize.

(2 marks)

   (b) Give the **TWO** main forms in which nitrogen is absorbed by plants from the soil.

(2 marks)

5. (a) Mrs. Chidumu observed yellowing of lower leaves in his maize crop. Identify the likely cause of the yellowing and explain why the upper leaves were not affected by the condition.

(3 marks)

   (b) Define organic farming.

(1 mark)

6. A farmer intends to plant cabbage seedlings in his two hectare farm at a spacing of 50cm by 50 cm. Calculate the seedling population. Show your calculations.

(4 marks)

7. Explain the effects of natural selection in crop plants according to Charles Darwin's Theory of Evolution.

(4 marks)

8. Outline **FOUR** soil erosion control measures that can be practised in a cultivated field.

(4 marks)

9. Relate zero tolerance to chemical residue to the floriculture industry in Kenya.

(4 marks)

10. Outline **FOUR** uses of **Grevillea robusta** as an agroforestry tree.

(4 marks)

SECTION B (60 marks)

*Answer any **FOUR** questions in this Section.*

11. Discuss the factors that determine spacing in crop production.

(15 marks)

12. (a) Outline the purpose of secondary tillage.

(5 marks)

(b) Explain the following terms as used in crop production.

(i) Leaching
(ii) Immobilisation

(4 marks)

(c) Describe the **TWO** groups of essential plant nutrients giving **TWO** examples in each case.

(6 marks)

13. (a) Outline **FIVE** advantages of grafting in crop propagation.

(5 marks)

(b) Discuss the factors that may limit the use of green manure in crop production.

(10 marks)

14. (a) Describe **FOUR** cultural methods of field pests control.

(8 marks)

(b) Discuss the quincux design of fruit establishment in an orchard. (7 marks)

15. (a) Define the term polyembryony. (2 marks)

(b) Explain the meaning of the symbols in the following breeding equation.

$$P = G + E$$

(3 marks)

(c) Describe the following layering methods.

(i) Marcotting.
(ii) Serpentine

(10 marks)

16. (a) Outline the advantages of hay making in pasture conservation. (5 marks)

(b) Discuss the nursery management practices from germination to transplanting. (10 marks)