Candidate's Name	Index No/
2425/201	Candidate's Signature
CROP PRODUCTION, SOIL FERTILITY	
AND PLANT NUTRITION	Date
June/Iuly 2013	



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN AGRICULTURE MODULE II

CROP PRODUCTION, SOIL FERTILITY AND PLANT NUTRITION

3 hours

INSTRUCTIONS TO CANDIDATES

Time: 3 hours

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

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

You should have a calculator for this examination.

This paper consists of TWO sections; A and B.

Answer any THREE questions from section A and any TWO questions from section B in the spaces provided.

All questions carry equal marks.

Maximum marks for each part of a question are as shown.

Do NOT remove any pages from this booklet.

Candidates should answer the questions in English.

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	20	
3	20	
4	20	
5	20	
6	20	
7	20	
8	20	
	1 2 3 4 5 6	Score 1 20 2 20 3 20 4 20 5 20 6 20 7 20

This paper consists of 20 printed pages.

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

Turn over

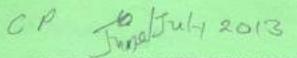
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SECTION A: CROP PRODUCTION

Answer any THREE questions from this section in the spaces provided.

1.	(a)	Outline eight uses of sunflower.	(8 marks)
	(b)	Discuss the factors affecting cotton yields.	(12 marks)
2.	(a)	State four advantages of single stem prunning in coffee production.	(4 marks)
	(b)	Describe the steps involved in seed pre-treatment in producing healthy rice	seedlings. (16 marks)
3.	(a)	Explain how losses due to diseases can be minimized in wheat production.	(10 marks)
	(b)	Describe the advantages of cover crops in sisal production.	(10 marks)
4.	(a)	Describe the ecological requirements for cocoyam production.	(4 marks)
	(b)	Describe soya bean mosaic virus under the following headings:	
		(i) symptoms; (ii) control.	(6 marks)
	(c)	Discuss the different methods used in the management of diseases in coffee	e production. (10 marks)
5.	(a)	Explain the economic importance of growing tea.	(5 marks)
	(b)	Describe the potassium deficiency symptoms in cassava production.	(5 marks)
	(c)	Describe five methods used to control of striga weed in sorghum production	n. (10 marks) ే



SECTION B: SOIL FERTILITY AND PLANT NUTRITION

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

- 6. (a) Describe the factors that determine amount and use of fertilizer applied. (8 marks)
 - (b) Describe the following processes:
 - (i) root interception;
 - (ii) mass flow;
 - (iii) diffusion.

(12 marks)

(a) Describe the characteristics of green manure plants.

(8 marks)

(b) Discuss the factors affecting nutrient absorption.

(12 marks)

(a) Discuss the factors affecting the nitrification process.

(8 marks)

(b) Table 1 below shows the laboratory soil test results for soil sample A.

Table 1: Soil test results for sample A

Soil Test	Soil Test Results
Soil pH	5.2
Organic carbon (% C)	0.7
Phosphorous	15 ppm
Cation exchange capacity	15 me/100g of soil

Use the table to answer the following questions.

- (i) Identify the problems affecting the soil sample. (4 marks)
- (ii) Explain how the pH of the soil sample can be improved. (4 marks)
- (iii) Explain the factors that contribute to phosphorus condition of the soil.

(4 marks)