

Name: \_\_\_\_\_

Index No. \_\_\_\_\_

2425/201

**CROP PRODUCTION II, SOIL FERTILITY  
AND PLANT NUTRITION**

Oct./Nov. 2013

Time: 3 hours

Candidate's Signature: \_\_\_\_\_

Date: \_\_\_\_\_



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**

**DIPLOMA IN AGRICULTURE  
MODULE II**

**CROP PRODUCTION II, SOIL FERTILITY AND PLANT NUTRITION**

**3 hours**

**INSTRUCTIONS TO CANDIDATES**

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

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

*You should have a Scientific 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.*

*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**

**SECTION A**

|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| Question | 1 | 2 | 3 | 4 | 5 |
| Marks    |   |   |   |   |   |

|       |
|-------|
| Total |
|       |

**SECTION B**

|          |   |   |   |       |
|----------|---|---|---|-------|
| Question | 6 | 7 | 8 | Total |
| Marks    |   |   |   |       |

|             |
|-------------|
| Grand Total |
|             |

**This paper consists of 16 printed pages.**

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

C.P. Oct/Nov 2013 [easyvet.com](http://easyvet.com)  
SECTION A

Answer any **THREE** questions from this Section.

1. (a) Define the following:
  - (i) Physiological maturity;
  - (ii) Seed inoculation;
  - (iii) Seed dressing.

(3 marks)
  
- (b) Describe maize streak disease under the following:
  - (i) Cause;
  - (ii) Symptoms;
  - (iii) Control.

(5 marks)
  
- (c) Explain the constraints facing sisal industry. 

(12 marks)
  
2. (a) Explain seed pretreatment practices for rice in the nursery. 

(10 marks)
  
- (b) Highlight cultural methods for controlling pests in beans. 

(10 marks)
  
3. (a) Explain the factors affecting pyrethrin content in pyrethrum. 

(10 marks)
  
- (b) Describe multiple stem pruning in coffee under the following:
  - (i) Advantages;
  - (ii) Disadvantages.

(10 marks)
  
4. (a) Explain how the following factors determine sugar cane quality.
  - (i) Brix;
  - (ii) POL;
  - (iii) Purity;
  - (iv) Fibre content.

(8 marks)
  
- (b) Differentiate between tipping in and breaking back in tea production. 

(9 marks)
  
- (c) State the remedial measures for rectifying soil acidity for wheat. 

(3 marks)

5. (a) Describe aflatoxin mould in groundnuts under the following:
- Causal organism;
  - Symptoms;
  - Control measures.
- (5 marks)
- (b) (i) Describe the coconut utilization;
- (ii) Describe the harvesting and post harvesting handling of cashew nuts;
- (iii) State **two** reasons why smooth-shell macadamia cultivars are preferred.
- (15 marks)

### SECTION B

Answer any **TWO** questions from this Section.

6. (a) Citing an example in each case differentiate between symbiotic and non-symbiotic nitrogen fixation. (5 marks)
- (b) The figure 1, below shows activities that take place when fresh organic matter with high C:N ratio is added to soil.

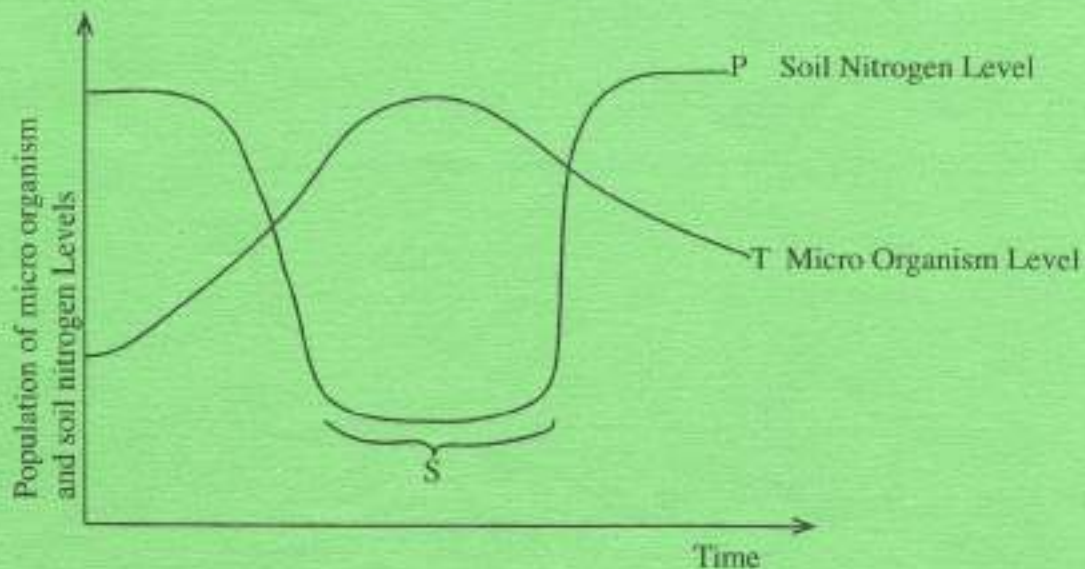


Figure 1

- (i) With respect to C:N ratio, explain the phenomenon as illustrated by graphs P, T and region S. (12 marks)
- (ii) Suggest **three** ways a farmer can use to minimise effects illustrated in figure 1. (3 marks)

