

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

443/1  
AGRICULTURE  
Paper 1  
Nov. 2016  
2 hours

Candidate's Signature .....

Date .....



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**  
**Kenya Certificate of Secondary Education**  
**AGRICULTURE**  
**Paper 1**  
2 hours

**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 section **A and B.**
- (e) Answer any **two** questions in section **C.**
- (f) All answers should be written in the spaces provided.
- (g) **This paper consists of 16 printed pages.**
- (h) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
- (i) **Candidates should answer the questions in English.**

**For Examiner's Use Only**

Section	Question	Maximum Score	Candidate's Score
A	1-18	30	
B	19-23	20	
C		20	
		20	
Total Score		90	



**SECTION A (30 marks)**

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

1. List **four** factors that would determine the stage at which a crop is harvested. (2 marks)

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2. State **two** ways in which crop rotation controls weeds. (1 mark)

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3. Give **two** factors which characterize small scale farming. (1 mark)

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4. Give **two** examples for each of the following categories of water pipes.

- (a) Metal pipes (1 mark)

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- (b) Hose pipes (1 mark)

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5. State the information included in a sales receipt when a farmer is selling eggs. (2½ marks)

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6. State **four** characteristics of a good vegetable seedling. (2 marks)

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7. Name **three** forms of horticulture practiced in Kenya. (1½ marks)

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8. State **two** mechanical methods of separating soil particles according to size, during soil analysis. (1 mark)

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9. List **four** disadvantages of mono cropping in crop production. (2 marks)

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10. State **two** reasons for practicing agro forestry on a

(a) river-bank

(1 mark)

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(b) steep slope

(1 mark)

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11. Give **three** reasons for growing crops under optimum temperature conditions.

(1½ marks)

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12. State **four** reasons for treating water for use on a farm.

(2 marks)

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13. Outline **two** ways of controlling damping off disease on vegetable seedlings in a nursery.

(1 mark)

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14. State **four** factors that affect the quality of farm-yard manure. (2 marks)

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15. Distinguish between grading and standardization in agricultural marketing. (2 marks)

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16. Give **four** disadvantages of broadcasting as a method of planting. (2 marks)

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17. State **three** practices which encourage soil erosion. (1½ marks)

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18. Name **two** types of non-competitive markets. (1 mark)

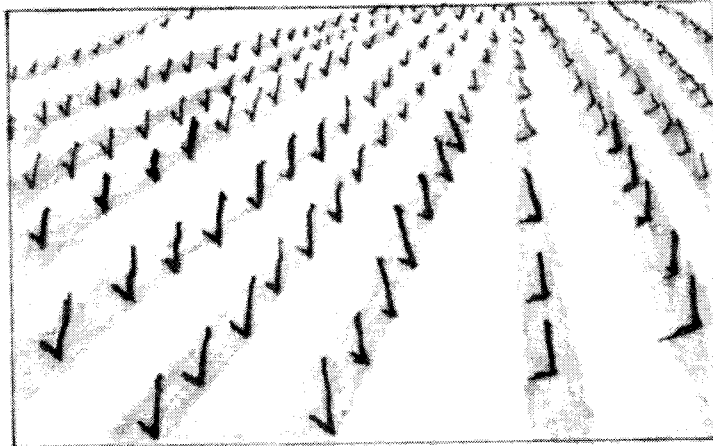
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**SECTION B (20 marks)**

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

19. The diagram below shows crop establishment using a certain method of planting. Study it carefully and then answer the questions that follow.



- (a) Name the method of planting used for the crop. (1 mark)

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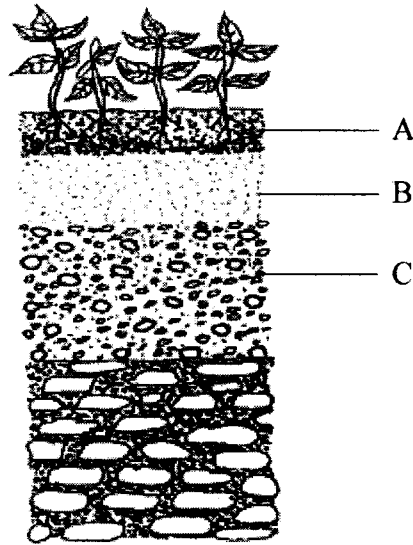
- (b) State **two** advantages of the planting method used for the crop. (2 marks)

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- (c) State **two** factors that determine the depth of planting. (2 marks)

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20. The diagram below illustrates a feature observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.



(a) Identify the feature that the diagram above represents in the study of soil. (1 mark)

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(b) Name the parts of the diagram labeled A, B and C. (1½ marks)

A .....

B .....

C .....

(c) State **two** ways in which the knowledge of the above feature would be of benefit to a farmer. (2 marks)

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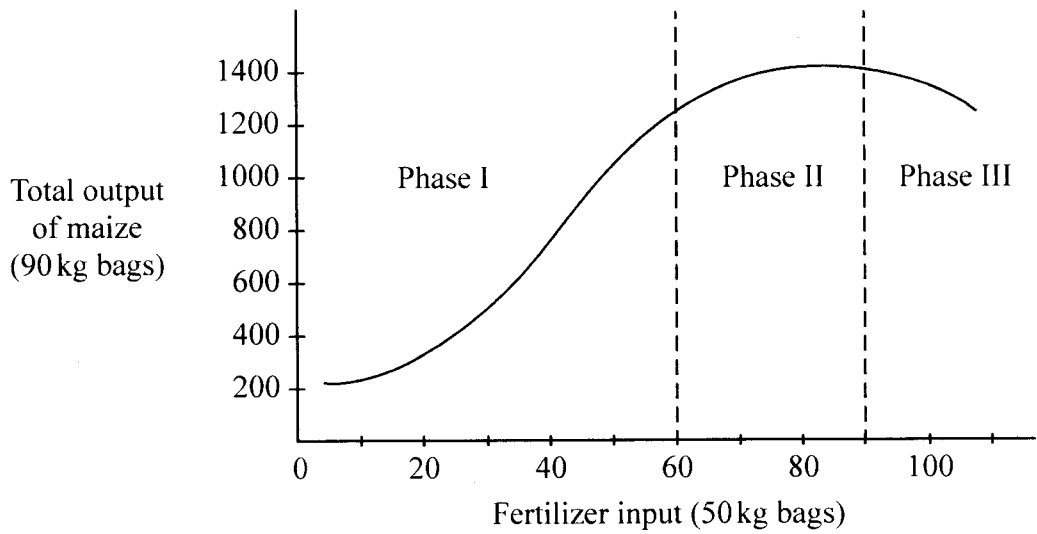
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21. Below is a graphical representation of a law in agricultural economics. Study the graph carefully and answer the questions that follow:



(a) Identify the law illustrated by the graph. (½ mark)

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(b) Explain how each additional unit of fertilizer input relates to the total output of maize in phases II and III.

Phase II ..... (1 mark)

Phase III ..... (1 mark)

(c) State the importance of the law identified in (i) above to the maize farmer. (1 mark)

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22. The following is a list of plant nutrients; copper, calcium, nitrogen, molybdenum, zinc, phosphorous, carbon, sulphur, iron and magnesium. Which of the above plant nutrients are:

(a) Macro-nutrients (1 mark)

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(b) Micro-nutrients (1 mark)

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(c) Fertilizer elements (1 mark)

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(d) Liming elements (1 mark)

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23. The table below shows pH value of different soil samples. Study it and answer the questions that follow.

Soil Sample	pH Value
S <sub>1</sub>	3
S <sub>2</sub>	4
S <sub>3</sub>	5
S <sub>4</sub>	6
S <sub>5</sub>	7
S <sub>6</sub>	8
S <sub>7</sub>	9
S <sub>8</sub>	10

(a) Which soil sample has the highest acidity? (1 mark)

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(b) State two ways in which the pH value of sample S<sub>8</sub> can be lowered. (1 mark)

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(c) Which of the above soil samples is suitable for growing tea? (1 mark)

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**SECTION C (40 marks)**

*Answer any two questions from this section in the space provided after question 26.*

- 24. (a) Outline the information contained in a purchase order. (5 marks)
- (b) Describe the harvesting of tea. (6 marks)
- (c) Explain the importance of irrigation in crop production. (5 marks)
- (d) Describe the role of magnesium in crop production. (4 marks)
- 25. (a) Describe the effects of pests on maize in the field. (6 marks)
- (b) (i) Describe the procedure of harvesting pyrethrum. (4 marks)
- (ii) Explain the precautions that should be observed during the harvesting of pyrethrum. (3 marks)
- (c) Describe the cultural methods of controlling soil erosion. (7 marks)
- 26. (a) Explain **eight** cultural methods of soil and water conservation. (8 marks)
- (b) Explain **four** ways in which:
  - (i) HIV/AIDS limits agricultural production. (4 marks)
  - (ii) Government policy improves agricultural production. (4 marks)
  - (iii) Low level of education and technology influence agriculture. (4 marks)

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