

443/1 -

**AGRICULTURE**

- Paper 1

**Nov. 2018 - 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 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 all the questions in English.**



**For Examiner's Use Only**

Section	Question	Maximum Score	Candidate's Score
<b>A</b>	<b>1-14</b>	<b>30</b>	
<b>B</b>	<b>15-18</b>	<b>20</b>	
<b>C</b>		<b>20</b>	
		<b>20</b>	
<b>Total Score</b>		<b>90</b>	

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**SECTION A (30 marks)**

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

1. Name **four** categories of livestock farming. (2 marks)

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2. State **four** farming practices that ensure minimum tillage. (2 marks)

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3. State **four** factors that determine the choice of water pipes used on the farm. (2 marks)

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4. Name **two** sources of underground water. (1 mark)

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5. Give **four** reasons why green manure is **not** commonly used in farming. (2 marks)

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6. (a) Name **two** types of inventory records kept on the farm. (1 mark)

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(b) State **two** uses of inventory records on a farm. (1 mark)

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7. (a) Name **three** vegetative planting materials used for propagating pineapples. (1½ marks)

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(b) State **three** qualities of certified seeds. (1½ marks)

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8. State **four** advantages of using polythene sleeves to propagate stem cuttings. (1 mark)

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9. State **four** disadvantages of concession land tenure system. (2 marks)

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10. Name **four** insect pests of beans in the field. (2 marks)

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11. (a) Name **three** legume pastures grown in high altitude areas. (1½ marks)

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(b) State **four** management practices undertaken to improve natural pastures. (2 marks)

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12. (a) Name **two** subsidiary books of the journal. (1 mark)

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(b) State **four** item details contained in a sales receipt. (2 marks)

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13. State **four** roles of Young Farmers Clubs in Kenya. (2 marks)

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14. (a) What is meant by the term agroforestry? (1/2 mark)

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(b) Name **two** agroforestry practices. (1 mark)

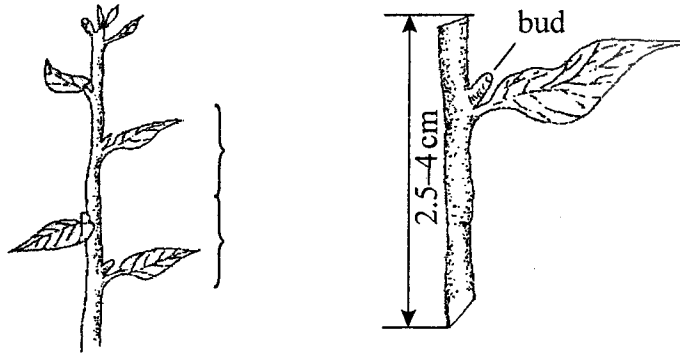
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SECTION B (20 marks)

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

15. The diagram below shows a section of a plant from which the planting material illustrated was obtained.



- (a) Identify the planting material illustrated. (1 mark)
- .....
- (b) Give **two** reasons why only the middle part of the plant was used to prepare the planting material. (2 marks)
- .....
- .....
- (c) Apart from using the middle part of the plant, explain **two** precautions that should be observed when preparing the illustrated planting material. (2 marks)

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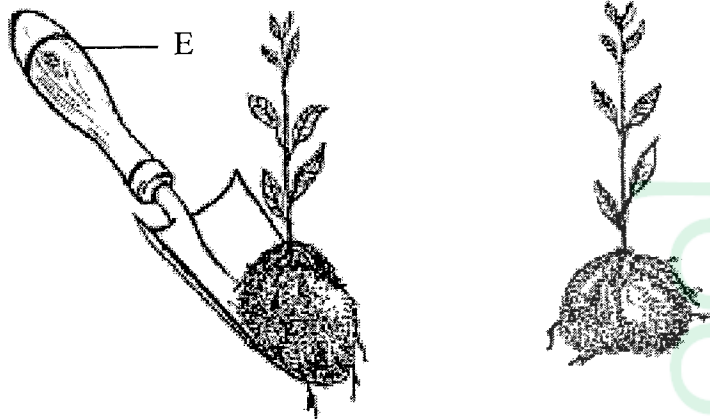
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17. The diagram below illustrates a nursery practice.



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(a) Name the practice (1 m)

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(b) Give a reason why the tool labelled E is important in the practice illustrated. (1 m)

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(c) What is the appropriate stage of growth for carrying out the illustrated practice in agroforestry? (1 m)

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(d) Explain **two** activities that ensure that the illustrated practice is carried out successfully. (2 m)

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18. In a maize production enterprise carried out over a period of eight years, a farmer used one hectare of land each time and applied different quantities of DAP fertiliser. DAP fertiliser costs KSh 2 500 per 50 kg bag and the harvested maize is sold at KSh 3 000 per 90 kg bag. The quantities of DAP fertiliser applied and maize harvested are as shown in this table below.

DAP fertiliser input in 50 kg bags	Maize yield in 90 kg bags	Total revenue KSh	Total cost KSh	Marginal revenue KSh	Marginal cost KSh
0	15.0	45 000	0	0	0
1	35.6				
2	52.0				
3	68.5				
4	71.0				
5	71.5				
6	71.5				
7	68.5				

(a) Complete the table by determining the values of total revenue, total cost, marginal revenue and marginal cost. (2 marks)

(b) From the information in your table, how can the farmer determine the level of production at which profit is maximum? (1 mark)

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(c) At the production level that yielded maximum profit, what was the value of each of the following?

(i) DAP fertiliser input (1 mark)

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(ii) Marginal revenue (1 mark)

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**SECTION C (40 marks)**

*Answer any two questions from this section in the spaces provided after question 21.*

- 19. (a) Explain **six** farming practices that destroy soil structure. (6 marks)
- (b) (i) State **four** functions of calcium in plant growth. (4 marks)
- (ii) State **four** disadvantages of using inorganic fertilisers in crop production. (4 marks)
- (c) Describe **six** categories of pesticides based on mode of action. (6 marks)
- 20. (a) Explain **six** cultural methods of soil and water conservation. (6 marks)
- (b) Explain **four** environmental factors that influence effectiveness of herbicides. (8 marks)
- (c) Describe **six** post-harvest practices for dry beans. (6 marks)
- 21. (a) (i) Describe the harvesting and marketing of bulb onions. (6 marks)
- (ii) State the precautions that should be observed when harvesting cotton. (4 marks)
- (b) Explain **five** problems associated with agricultural credit. (5 marks)
- (c) Explain **five** principles that govern the formation and functioning of farmer's co-operatives. (5 marks)

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