

443/1

— **AGRICULTURE** —
(THEORY)

Paper 1



Apr. 2021 – 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 the examination in the spaces provided above.
- (c) This paper consists of **three** sections; **A**, **B** and **C**.
- (d) Answer **all** the questions in sections **A** and **B**.
- (e) Answer any **two** questions in section **C**.
- (f) All answers should be written in the spaces provided.
- (g) Non-programmable silent electronic calculators may be used.
- (h) **This paper consists of 16 printed pages.**
- (i) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
- (j) **Candidates should answer the questions in English.**

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1–15	30	
B	16–19	20	
C		20	
		20	
Total Score		90	

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SECTION A (30 marks)

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

1. State *four* pieces of information found on animal health records. (2 marks)

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2. State *four* ways in which organic matter in the soil is important. (2 marks)

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3. Name *four* equipment used for large scale overhead irrigation. (2 marks)

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4. State *four* functions of Agricultural Society of Kenya (ASK). (2 marks)

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5. State **four** pieces of information found on a delivery note. (2 marks)

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6. Name **four** implements used for primary cultivation. (2 marks)

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7. State **four** factors that influence soil formation. (2 marks)

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8. State **four** reasons for ridging in potato production. (2 marks)

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12. State *four* ways in which a land title deed is important to a farmer. (2 marks)

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13. State *four* agents of soil erosion. (2 marks)

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14. State *four* effects of late defoliation in pasture utilisation. (2 marks)

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15. State *four* agricultural practices that pollute surface water sources. (2 marks)

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Distinguish between each of the following pair of terms as used in crop production.

(a) thinning and roguing. (1 mark)

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(b) seedling bed and nursery bed. (1 mark)

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10. Apart from tillage, name *four* methods farmers use to control weeds. (2 marks)

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11. State *four* causes of crop diseases. (2 marks)

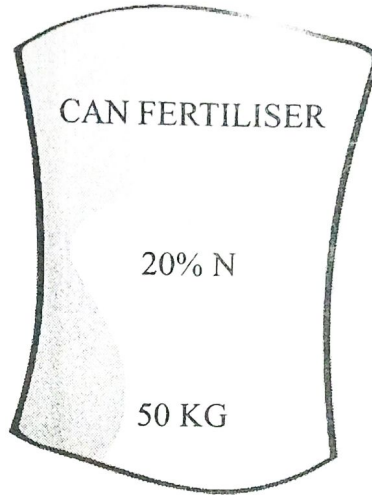
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SECTION B (20 marks)

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

16. The diagram below shows a bag of Calcium Ammonium Nitrate fertiliser.



(a) Classify the fertiliser. (1 mark)

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(b) Explain the effect of applying the above fertiliser on soil pH. (1 mark)

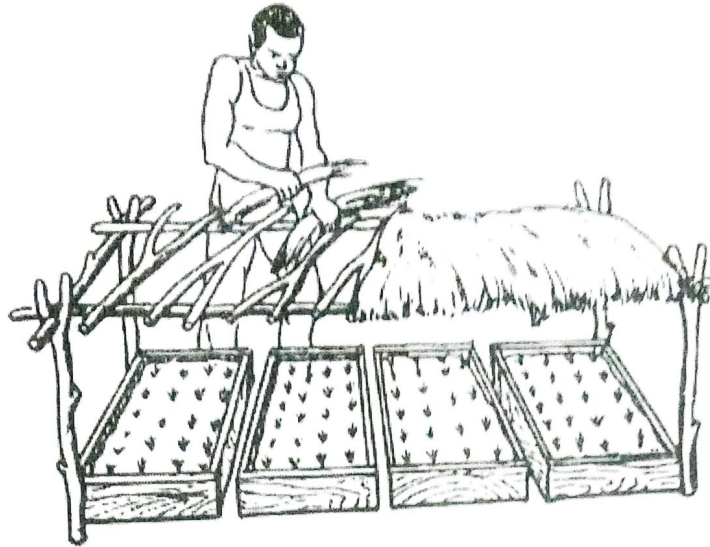
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(c) A farmer is advised to apply 50 kg of nitrogen per hectare. How many bags of the above fertiliser will this farmer require for one hectare? Show your working. (3 marks)

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17. The diagram below shows a nursery practice carried out soon after tree seedlings have emerged.



- (a) Identify the practice. (1 mark)

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- (b) Give *two* reasons for carrying out the above practice. (2 marks)

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- (c) State *one* precaution that should be observed in the practice illustrated in relation to the direction of the sun. (1 mark)

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- (d) Name the type of nursery bed illustrated. (1 mark)

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18. The diagram below shows a soil borne pest that attacks plant roots.



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(a) Identify the pest. (1 mark)

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(b) State *two* symptoms of attack by the pest in tomato production. (2 marks)

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(c) State *two* control measures for the pest. (2 marks)

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The table below shows a farm record for Mwamuzi Farm.

RECEIPTS			ISSUES			
DATE	COMMODITY/ITEM	QUANTITY	DATE	ISSUED TO	QUANTITY	BALANCE IN STOCK

- (a) Identify the farm record. (1 mark)

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- (b) The farm received 20 bags of DAP fertiliser from Milimani Agrovet on 07/07/2018 and another 20 bags on 21/07/2018. On 28/07/2018, a gardener took eight bags of DAP and used it to plant potatoes on the farm. Enter this information in the farm record illustrated above. (3 marks)

- (c) Give *one* reason for keeping the farm record illustrated above in farm accounting. (1 mark)

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SECTION C (40 marks)

Answer any **two** questions from this section in the spaces provided after question 22.

20. (a) Describe the risks and uncertainties encountered by sugarcane farmers in Kenya. (7 marks)
- (b) Explain **three** ways in which each of the following reduces tomato production:
- (i) inadequate rainfall; (3 marks)
- (ii) low temperature; (3 marks)
- (iii) strong wind. (3 marks)
- (c) Give **four** reasons why farmers prefer using tillage to control weeds. (4 marks)
21. (a) Describe how maize is planted in the field. (7 marks)
- (b) Explain **seven** factors that determine spacing in bean production. (7 marks)
- (c) Give **six** reasons why tree seedlings should be established using a nursery. (6 marks)
22. (a) Describe how a plucking table is maintained in a tea plantation. (5 marks)
- (b) Describe how onion seedlings are transplanted. (7 marks)
- (c) Describe **eight** types of micro-catchments used in water conservation. (8 marks)