

443/1

Paper I

AGRICULTURE (Theory)



Dec. 2022 – 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 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	



SECTION A (30 marks)

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

1. State **four** human factors that influence agriculture. (2 marks)

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2. Name **four** methods of harvesting agroforestry trees. (2 marks)

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3. (a) Differentiate between reforestation and afforestation. (1 mark)

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- (b) Name **four** cover crops farmers can use for soil and water conservation. (2 marks)

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4. Name **four** types of water pumps. (2 marks)

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5. State **four** factors considered when selecting planting materials for forage crops. (2 marks)

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6. Which branch of agriculture deals with:

(a) utilisation of scarce resources? (1 mark)

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(b) maintenance of farm tools and equipment? (1 mark)

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7. Give **four** factors that a farmer should consider in order to prepare good quality chicken manure. (2 marks)

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8. Give four reasons for keeping labour utilisation records. (2 marks)

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9. State four types of land reforms practised in Kenya. (2 marks)

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10. Give one use of each of the two types of inventory records kept by farmers. (2 marks)

Type of inventory record	Use

11. State four characteristics of nitrogenous fertilisers. (2 marks)

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12. Give **four** reasons why Kenyans should practise agroforestry. (2 marks)

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13. Distinguish between a dam and a weir. (1 mark)

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14. Name **four** types of grasses grown in high altitude areas as forage. (2 marks)

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15. Give **four** reasons for preparing a seedbed in crop production. (2 marks)

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SECTION B (20 marks)

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

16. If a tomato crop is planted at a spacing of 100 cm by 50 cm, calculate the plant population for a plot of land measuring 5 m by 6 m. (5 marks)

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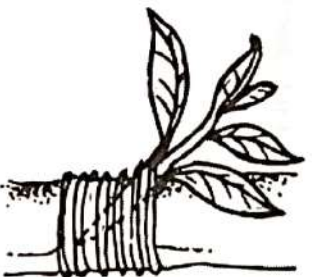
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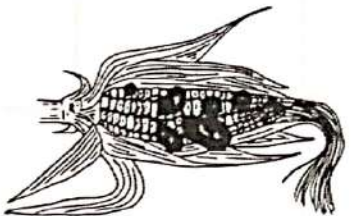
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17. The diagram below shows a method of grafting.



- (a) Identify the method of grafting. (1 mark)
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- (b) Name **two** other methods of grafting apart from the one illustrated. (2 marks)
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- (c) Give **two** reasons why a farmer may prefer using the grafting method illustrated. (2 marks)
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18. The diagram below shows a maize cob infected by a certain disease.



(a) Identify the disease.

(1 mark)

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(b) State **two** control measures for the disease.

(2 marks)

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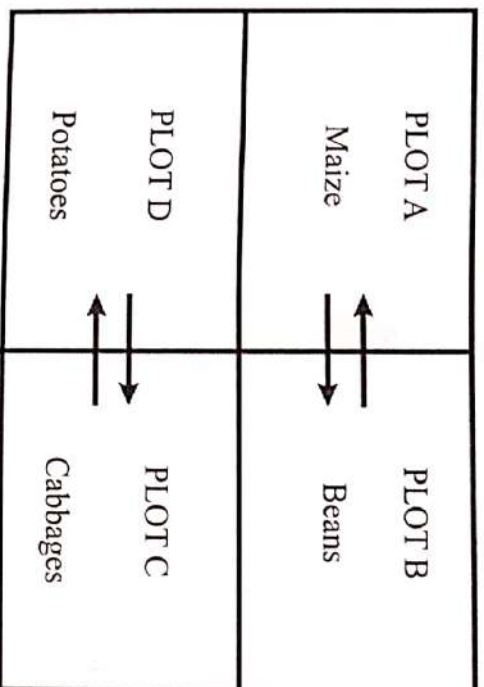
(c) Name any other **two** diseases of maize in the field.

(2 marks)

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19. The diagram below shows a crop rotation programme practised on a virgin land for three seasons.



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Arrows show how crops were rotated after the first season.

- (a) Give **one** reason why:

- (i) maize was planted first in plot A

(1 mark)

- (ii) Irish potato was rotated with cabbage after the first season

(1 mark)

- (b) Name **two** crops that can be planted in the place of Irish potatoes in the rotation programme.

(2 marks)

- (c) Give a reason why it is important to include a grass lay in the rotation programme.

(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 cabbage production under each of the following sub-headings:
- (i) varieties (2 marks)
 - (ii) nursery establishment (5 marks)
- (b) Give **seven** agricultural support services available to wheat farmers in Kenya. (7 marks)
- (c) Explain any **six** cultural methods of weed control. (6 marks)
21. (a) Explain **six** harmful effects of crop pests. (6 marks)
- (b) State **four** problems farmers encounter when marketing milk. (4 marks)
- (c) Give **four** reasons why farmers should prepare a farm budget. (4 marks)
- (d) Describe the harvesting of tea under the following sub-headings:
- (i) harvesting procedure (3 marks)
 - (ii) precautions taken during harvesting (3 marks)
22. (a) Describe **five** ways in which each of the following affects agriculture:
- (i) HIV and AIDS (5 marks)
 - (ii) poor economic growth (5 marks)
- (b) Give **five** roles of calcium in the growing of tomatoes. (5 marks)
- (c) State **five** details farmers should include in a purchase order. (5 marks)

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