

443/1

Paper 1

# AGRICULTURE (Theory)

Dec. 2022 – 2 hours



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

Candidate's Signature ..... Date .....

## Instructions to candidates

- Write your name and index number in the spaces provided above.
- Sign and write the date of examination in the spaces provided above.
- This paper consists of **three** sections; **A**, **B** and **C**.
- Answer **all** the questions in sections **A** and **B**.
- Answer any **two** questions in section **C**.
- All answers should be written in the spaces provided.
- Non-programmable silent electronic calculators may be used.
- 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.**
- 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 reafforestation 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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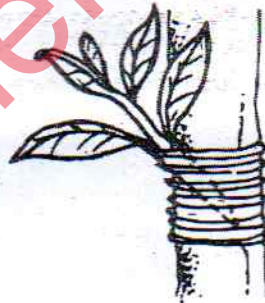
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17. The diagram below shows a method of grafting.



- (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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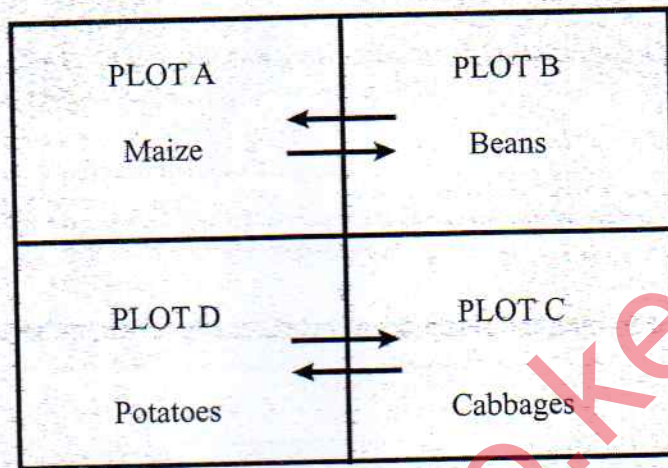
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18. The diagram below shows a maize cob infected by a certain disease.



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

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



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)

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

(1 mark)

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

(2 marks)

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- (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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