

**4.3 AGRICULTURE (443)**

**4.3.1 Agriculture Paper 1 (443/1)**

**SECTION A (30 marks)**

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

- 1** (a) Name **two** field management practices that are carried out to obtain optimum plant population in a crop field. (1 mark)

.....  
.....

- (b) Explain how each of the practices named in (a) above achieves optimum plant population. (1 mark)

.....

- 2** Give **two** examples for each of the following types of costs incurred in broiler production.

- (a) variable costs; (1 mark)

.....  
.....

- (b) fixed costs. (1 mark)

.....  
.....

- 3** State **four** disadvantages of mono cropping in crop production. (2 marks)

.....

- 4** Give **three** reasons for early seedbed preparation. (1½ marks)

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

- 6** Outline **four** qualities of a mother plant from which vegetative propagation materials should be obtained. (2 marks)

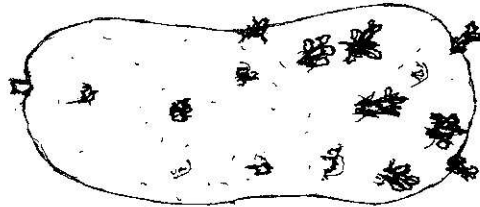
- 7** Give **three** factors that should be considered when choosing the type of labour to use on the farm. (1½ marks)

- 8 State the use of each of the following in farm accounting:
- (a) balance sheet; (½ mark)
- (b) inventory; (½ mark)
- .....
- (c) cash book. (½ mark)
- .....
- 9 State **four** functions of Agricultural Society of Kenya (A.S.K.). (2 marks)
- 10 How does leaching lead to loss of soil fertility? (½ marks)
- .....
- .....
- 11 Give **two** reasons for imposing quarantine on imported planting materials. (1 mark)
- .....
- .....
- 12 State **four** ways of controlling bean anthracnose disease. (2 marks)
- 13 List **four** post-harvest practices that are carried out in maize production. (2 marks)
- 14 Name **two** types of non-competitive markets. (1 mark)
- 15 Name **four** settlement schemes that the Kenyan government started as a result of the success of the Million Acre Scheme. (2 marks)
- 16 Give a weed for each case, which has the following effect on cattle:
- (a) poisoning; (½ mark)
- .....
- (b) tainting milk when eaten before milking. (½ mark)
- .....
- 17 Apart from training and extension services, state **four** other agricultural support services the Kenyan government provides to a maize farmer. (2 marks)
- 18 State **three** methods of harvesting trees in agroforestry. (1½ marks)
- 19 Give **three** maintenance practices for trees in agroforestry. (1½ marks)

**SECTION B (20 marks)**

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

- 20 The diagram below illustrates a seed potato prepared for planting. Study it carefully and answer the questions that follow:



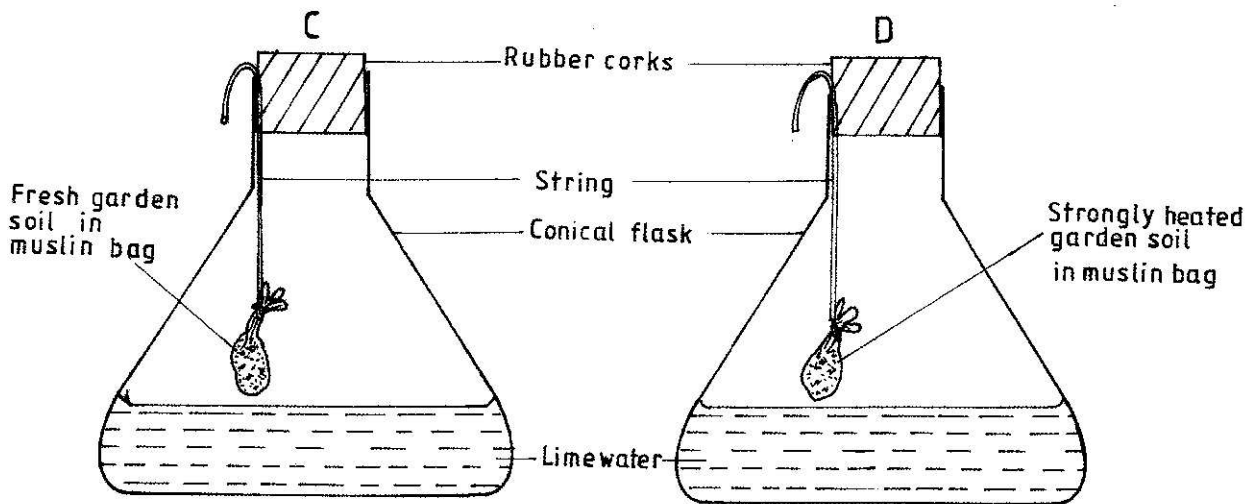
- (a) Name the practice used in preparing the seed potato above for planting. (1 mark)

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- (b) Describe the procedure followed in preparing seed potatoes for planting. (3 marks)

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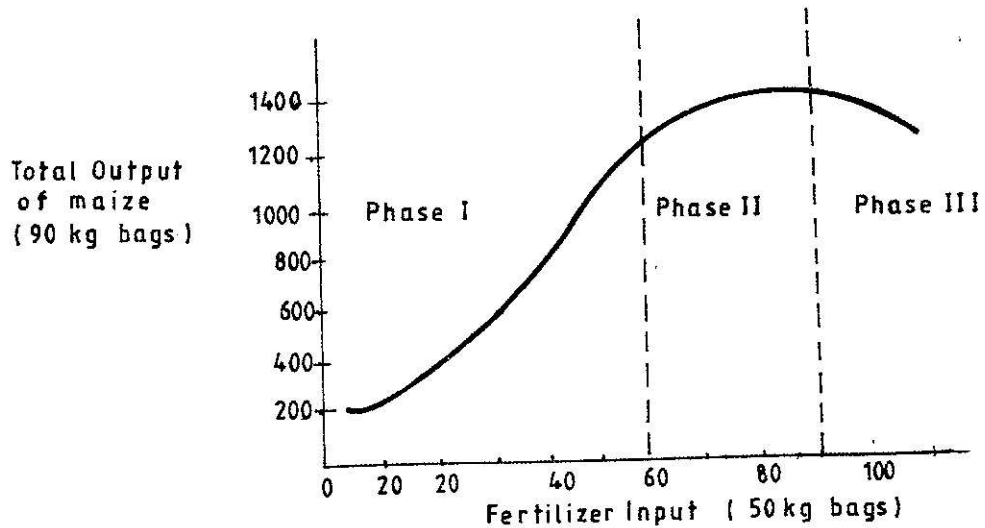
- 21 The diagrams below show a set up of an experiment to study an aspect of soil. The set up was left undisturbed for five hours. Study it and answer the questions that follow.



- (a) What was the aim of the experiment? (1 mark)

- (b) State **one** observation that was made in each of the flasks labelled **C** and **D**.
- C**..... (½ mark)
- D**..... (½ mark)
- (c) Give a reason for each of your answers in (b) above.
- C**..... (1 mark)
- .....
- D**..... (1 mark)

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



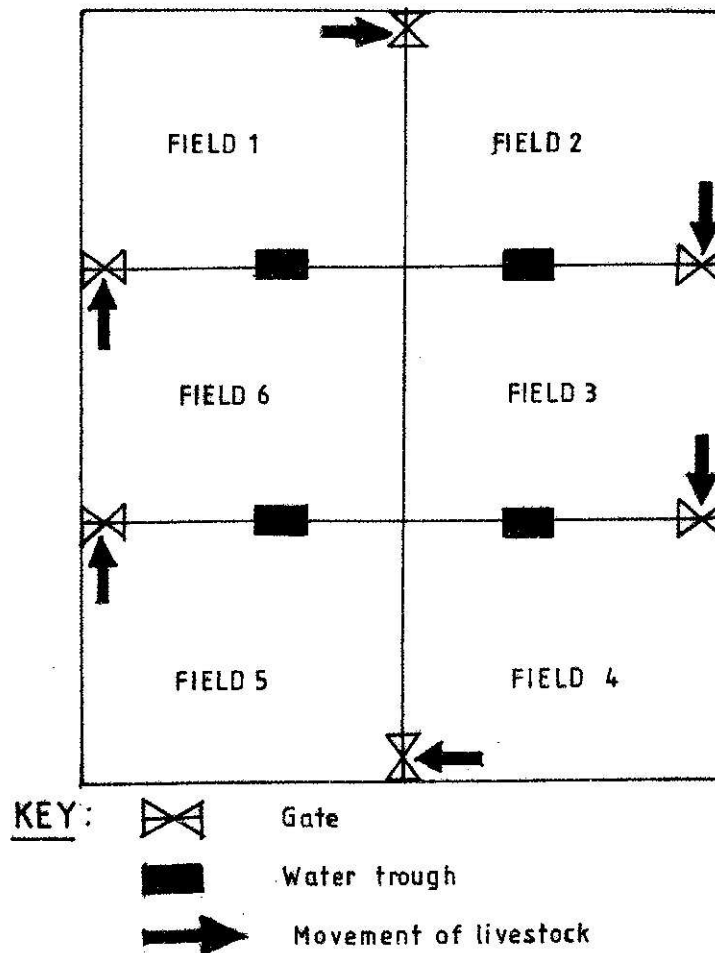
- (a) Identify the law illustrated by the graph. (½ mark)
- (b) Explain how each additional unit of fertilizer input relates to the total output of maize in phases II and III.
- Phase II..... (1 mark)
- .....
- Phase III..... (1 mark)
- .....
- (c) State the importance of the law identified in (i) above to the maize farmer. (1 mark)

23 The following information was extracted from Makueni Farm Records for the financial year ending on 30th June 2009. Study it and prepare a profit and loss account for the farm.

(3 marks)

• Rent received	Sh. 10,000
• Egg sale	Sh. 60,000
• Repair of tractor	Sh. 30,000
• Opening valuation	Sh. 80,000
• Interest on Bank loan	Sh. 20,000
• Tax paid	Sh. 40,000
• Closing valuation	Sh. 90,000
• Purchase of farm inputs	Sh. 90,000
• Debts receivable from farmers co-op society	Sh 100,000
• Maize sales	Sh. 55,000

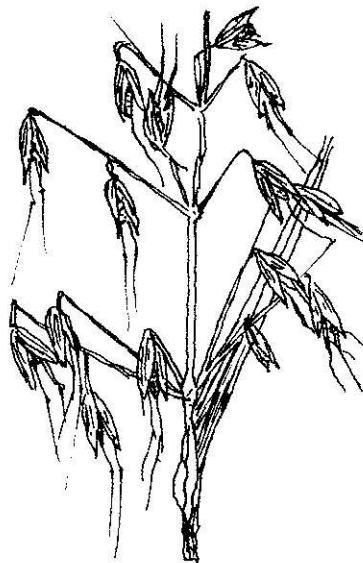
24 The diagram below illustrates a grazing system. Study it carefully and answer the questions that follow.



(a) Identify the grazing system illustrated above. (½ mark)

(b) State **five** advantages of the grazing system illustrated above. (2½ marks)

25 The diagram below is an illustration of a weed. Study it and answer the questions that follow.



- (a) Identify the weed. (½ mark)
- (b) State **two** harmful effects of the weed illustrated above. (2 marks)

**SECTION C (40 marks)**

*Answer any two questions from this section in the spaces provided after question 28.*

- 26 (a) Describe how water is treated to remove solid impurities. (5 marks)
- (b) Give a reason for each of the farm records kept on a dairy farm. (5 marks)
- (c) Describe the production of cabbages under the following sub-headings:
  - (i) seedbed preparation; (3 marks)
  - (ii) transplanting of seedlings. (7 marks)
- 27 (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)
- 28 (a) Explain five ways in which biotic factors influence crop production in agriculture. (5 marks)
- (b) Describe how the stem cuttings for propagating tea are prepared. (9 marks)
- (c) Describe the properties of nitrogenous fertilizers. (6 marks)