

**K.C.S.E 2006 AGRICULTURE
PAPER 1 (443/1)**

SECTION A (30 marks)

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

1. Differentiate between Olericulture and Pomoculture as used in crop production. (1 mark)
2. State **three** ways by which biological agents can enhance the process of soil formation. (1½ marks)
3. State **four** advantages of drip irrigation. (2 marks)
4. State **four** advantages of adding organic manure to a sandy soil. (2 marks)
5. State **two** factors that would determine the amount of fertilizer to be top dressed to a crop in the field. (1 mark)
6. State **four** advantages of applying lime as a measure of improving soil condition. (2 marks)
7. Give **four** reasons for using certified seeds for planting. (2 marks)
8. Give **four** reasons for planting crops at the correct spacing. (2 marks)

9. State **three** effects of soil erosion. (1½ marks)
10. Name **four** methods used to control weeds in pastures. (2 marks)
11. State **two** benefits of conserving forage crops. (1 mark)
12. Mention **four** practices that should be carried out to maintain grass pastures. (2 marks)
13. Define the following terms as used in agricultural economics:
- (a) Gross Domestic Product (GDP) (½ mark)
 - (b) Per capita income (½ mark)
14. What is profit maximization in agricultural economics? (½ mark)
15. State **four** benefits of budgeting to a farm manager. (2 marks)
16. Give **two** reasons why farmers keep farm accounts. (1 mark)
17. State **four** activities carried out by Young Farmers' Clubs in Kenya. (2 marks)
18. State **four** ways by which afforestation helps in land reclamation. (2 marks)
19. State **three** advantages of multiple stem pruning over single stem pruning in coffee. (1 ½ marks)

SECTION B (20 marks)

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

20. Two maize pests are shown in the diagram below. Study them and answer the questions that follow.



A



B

- (a) Identify the pests in the diagrams labelled A and B. (1 mark)

A

B

- (b) At what stage of maize production does each pest damage the crop? (2 marks)

A

B

- (c) Give **one** way of controlling each of the pests in the field. (2 marks)

A

B

21. (a) State the law of diminishing returns in a production process. (1 mark)

(b) Use the information on the table below to answer the questions that follow.

| Fertilizer input (units) | Maize yield (bags) | Marginal product (bags) |
|--------------------------|--------------------|-------------------------|
| 0 | 50 | - |
| 1 | 62 | 12 |
| 2 | 66 | 4 |
| 3 | 68 | 2 |
| 4 | 69 | 1 |
| 5 | 69 | 0 |

The cost of fertilizer is Sh. 1500 per unit and the price of maize is Sh. 1200 per bag.

(i) At what unit of fertilizer input should the farmer be advised to stop applying any more fertilizer to the maize? (1 mark)

(ii) Give a reason for your answer in (b) (i) above. (1 mark)

(iii) Calculate the marginal return at the point of optimum production (1 mark)

22. (a) Describe the procedure which should be followed in spraying a crop of tomatoes using a fungicide in powder form, water and a knapsack sprayer. (3 marks)

(b) Name **one** fungal disease of tomatoes that can be controlled using the above procedure. (1 mark)

(c) State **four** safety measures that should be taken while spraying the crop with the fungicide. (2 marks)

23. The diagram below shows a weed.



- (a) Identify the weed. (1 mark)
- (b) State **two** reasons for controlling the weed. (2 marks)
- (c) Name **two** herbicides that can be used to control the weed in a field of maize. (1 mark)
- (d) At what stage of growth of maize should the weed be controlled using a post-emergence herbicide? (1 mark)

SECTION C (40 marks)

Answer any **TWO** questions in this section in the spaces provided at the end of the section.

24. Describe the establishment of kales under the following sub-headings:

(a) Nursery preparation. (4 marks)

(b) Establishment in the nursery. (3 marks)

(c) Management of seedlings in the nursery. (5 marks)

(d) Transplanting of seedlings (8 marks)

25. (a) Outline the factors necessary for proper functioning of farmers' co-operative societies in Kenya. (5 marks)

(b) Explain how farmers overcome risks and uncertainties in a farming business. (7 marks)

(c) Describe the steps farmers should follow when planning a farm business. (8 marks)

26. (a) List various methods of harvesting water in a farm. (4 marks)

(b) Outline farming activities which may encourage soil erosion. (8 marks)

(c) Explain how various farming practices would help to conserve soil in a farm. (8 marks)