


AGRICULTURE PAPER 1

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K.C.S.E AGRICULTURE

PAPER 1 2005 QUESTIONS

1. Name four species of fresh water fish reared in Kenya. (2 mks)
2. Give two forms of collective land tenure system in Kenya, (1 mk)
3. State one reason why calves should be housed in individual pens. (1 mk)
4. Mention three disadvantages of using steel material in construction of farm buildings. (1 mk)
5. State two cultural methods of controlling bollworms in a tomato crop. (1 mk)
6. State two factors that enable ruminants to breakdown fibrous food materials. (1 mk)
7. Give two possible causes of swellings on the roots of bean plants. (1 mk)
8. Name the equipment used for the following farm operations:
 - (a) Administration of liquid medicine to livestock through the mouth
 - (b) Processing butter from cream. (1 mk)
9. State the condition under which the opportunity cost is zero in a farming enterprise. (1 mk)
10. Name five sources of agricultural credit in Kenya. (2 ½ mks)
11. State two advantages of proper stocking rate in pasture management. (1 mk)
12. Give one reason for feeding a finishing ration to baconers. (1 mk)
13. State three ways by which afforestation helps in land reclamation. (1 mks)

14. Give four ways by which farmers minimise grain losses in stores. (2 mks)
15. List four ways of applying fertilisers in crops (2 mks)
16. Give two examples in each case of the following costs incurred in the production of milk:
- (a) variable costs (1 mk)
- (b) fixed costs. (1 mk)
17. State three factors which should be considered when siting a compost beap. (1½ mks)
18. Explain the following terms as used in pasture establishment:
- (a) seed inoculation (½ mk)
- (b) over sowing. (½ mk)
19. State three advantages of adding organic matter to sandy soil. (1½ mks)
20. Give six reasons for timely planting of annual crops. (3 mks)
21. State four practices used to control smut in maize production. (2 mks)
22. State four reasons for pruning fruit crops. (2 mks)
23. State six symptoms of East Coast fever. (3 mks)
24. List six qualities of eggs suitable for incubation. (3 mks)
25. State four aspects of rainfall which are considered when choosing a crop to grow in an area. (2 mks)

SECTION B (40 mks)

Answer AU the questions in this section

- 26.
- a) (a) State two effects of good soil aeration in crop growth. (2 mks)

- b) (b)Outline three factors which may influence soil erosion. (3 mks)
- 27.
- a) Give one reason for carrying out each of the following practices in a tomato nursery:
- (i) pricking out
- (ii) hardening off. (2 mks)
- b) State two methods of controlling blossom end rot in tomatoes.
- c) State three factors to consider when grading tomatoes for fresh market (2 mks)
- 28.
- a) Differentiate between macro-nutrients and micro-nutrients.
- b) State four functions of calcium in plant growth and development. (4 mks)
- 29.
- a) State the cause of milk fever in dairy cows. (1 mk)
- b) Give four symptoms of milk fever in dairy cows. (4 mks)
- c) State two methods of controlling milk fever. (2 mks)
- 30.
- a) Mention three reasons why bees swarm. (3 mks)
- b) State two methods used to stock beehives. (2 mks)
- 31.
- a) State one condition under which a farmer would prefer to use an ox-cart instead of a tractor-drawn trailer. (1 mk)
- b) Give three maintenance practices carried out on an ox-plough. (3 mks)
- 32.
- a) What is opening valuation as used in farm accounts? (1 mk)
- b) Differentiate between partial budget and complete budget. (2 mks)

mks)

- c) State the use of each of the following financial documents:
- (i) cash receipt
 - (ii) purchase order
 - (iii) delivery note.

SECTION C (40 mks)

Answer any TWO questions from this section

33.

- (a) Describe the uses of farm records to a farmer. (8 mks)
- (b) Explain how farmers may adjust to uncertainties in a farming business. (12 mks)

34.

Describe the production of either coconut or pyrethrum under the following sub-headings:

- a) ecologic all requirements (3 mks)
- b) seedbed preparation (5 mks)
- c) transplanting
- d) field management practices
- e) Harvesting.

35.

- a) Describe the management of a gilt from the time of weaning up to two weeks before farrowing. (15 mks)
- b) Describe steps to be taken in maintaining hygiene in a deep litter poultry house. (5 mks)

**K.C.S.E AGRICULTURE
PAPER 1 2006
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 mk)
2. State three ways by which biological agents can enhance the process of soil formation
(1 ½ mk)
3. State four advantages of drip irrigation
(2 mks)
4. State four advantages of adding organic manure to a sandy soil
(2 mks)
5. State two factors that would determine the amount of fertilizer to be top dressed to a crop in the field
(1 mk)
6. State four advantages of applying lime as a measure of improving soil condition
(2 mks)
7. Give four reasons for using certified seeds for planting
(2 mks)
8. Give four reasons for planting crops at the correct spacing
(2 mks)
9. State three effects of soil erosion
(2 mks)
10. Name four methods used to control weeds in pastures
(2 mks)
11. State two benefits of conserving forage crops
(2 mks)
12. Mention four practices that should be carried out to maintain grass pasture
(1½ mks)
13. Define the following terms as used in agriculture economics

(a) Gross domestic product (GDP)

(1½ mks)

(b) Per capita income

(½ mks)

14. What is profit maximization in agriculture economics?

(½ mks)

15. State four benefits of budgeting to a farm manager

(2 mks)

16. Give two reasons why farmers keep farm accounts

17. State activities carried out by young farmers club in Kenya

(2 mks)

18. State four ways by which afforestation helps in land reclamation

(2 mks)

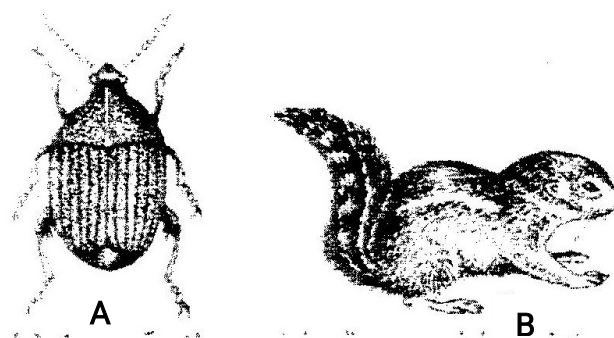
19. State three advantages of multiple stem pruning over single stem pruning in coffee

(1½ mks)

SECTION B (20 mks)

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) Identify the pests in the diagram labeled A and B

(1 mk)

(b) at what stage of maize production does each damage the crop?

(c) Give one way of controlling each of the pests in the field

21 (a) state the law of diminishing returns in a production process

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

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

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

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

(ii) Give a reason for your answer in (b) above

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

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

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

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

23. The diagram below shows a weed



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

SECTION C (40 MKS)

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
b) Establishment in the nursery
c) Management of seedlings in the nursery.
d) Transplanting of seedlings.
25. a) Outline the factors necessary for proper functioning of farmers' co-operative societies in Kenya.
b) Explain how farmers overcome risks and uncertainties in a farming business.
c) Describe the steps farmers should follow when planning a farm business
26. a) List various methods of harvesting water in a farm
b) Outline farming activities which may encourage soil erosion.
c) Explain how various farming practices would help to conserve soil in a farm.

**K.C.S.E AGRICULTURE
PAPER 1 2007
QUESTIONS**

SECTION A [30 MKS

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

1. Give **four** conditions of the land which may make it necessary to carry out reclamation practices. (2mks)
2. List **three** physical weathering agents in the soil formation process (1¹/₂)
3. State **two** mechanical methods of separating soil particles according to size during soil analysis (1mks)
4. Give **two** benefits of possessing a land Title Deed to a farmer. (1mk)
5. Give four advantages of crop rotation (2 mks)
6. State four factors that should be considered when classifying crop pest
7. State **three** functions of boron in crop development. (1¹/₂mk)
8. Outline **four** observable indicators of economic development of a nation (2mks)
9. Give three factors that may influence the price of an agricultural commodity. (1¹/₂)
10. Name three examples of leguminous fodder crops. (1¹/₂)
11. Give two factors that may determine the size of a pit for silage making (1mk)
12. Give three reasons for controlling weeds in pastures. (1¹/₂mk)
13. State six characteristics of a productive soil. (3 mks)
14. State any five qualities that should be considered when selecting seeds for planting (2 ½ mk)

- 15 (a) State four practices which encourage soil erosion (2 mks)
 (b) Name two forms of gulley erosion (1 mk)
16. (a) State four advantages of land consolidation (2 mks)
 (b) Give two advantages of leasehold tenure system in farming (1 mk)

SECTION B (20 MKS)

Answer all the questions in this section in the spaces provided

17. The table below shows the demand and supply of potatoes at UKULIMA mkt.

Price (Kshs)	Quantity demanded (in bags)	Quantity supplied (in bags)
1200	50	250
1000	90	200
800	150	150
600	225	70
400	335	0

- (a) Using suitable scales, draw and label a graph showing the relationship between the demand and supply of the potatoes at UKULIMA market. (5 mks)
- (b) What is the equilibrium price of the potatoes? (1 mk)
- (c) From the graph determine:
 (i) The number of bags of potatoes that would be bought if the price per bag is Kshs 900/= (1 mk)
 (ii) The price of a bag of potatoes if 180 bags are supplied (1 mk)

18. The diagrams labeled A₁, A₂, A₃, and B below illustrate materials and methods of vegetative propagation. Study them and answer the questions that follow.



(a) Name the parts labeled A₁, and A₂

(2 mks)

A₁

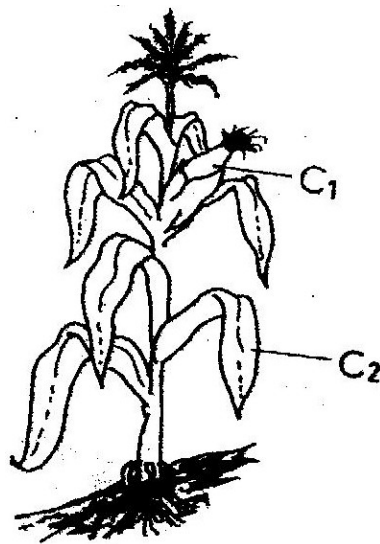
A₂

(b) Name the methods of propagation illustrated in diagrams A₃ and B
(2 mks)

A₃

B

19. Study the crop illustrated in the diagram below and answer the questions that follow



(a) Name one insect pest which attacks the part labeled C₁ and one disease which attacks the part labeled C₂

(2 mks)

C₁

C₂

20. A member of young farmers club was advised to apply a complete fertilizer

30: 20:10 in a tomato plot measuring 10m long by 5m wide at the rate of 300kg per hectare

- (a) State the percentage of P_2O_5 in the complete fertilizer (1 mk)
- (b) Calculate the amount of fertilizer the member would require for the plot (2 mks) (Show your working)

21. The diagrams labeled D and E below are illustrations of coffee established using two different formative pruning systems. Study them and answer the questions that follow.



- (a) Name the system of pruning illustrated in diagram D above
(1mk)
- (b) Outline how the pruning system illustrated in diagram E is carried out (2
mks)

SECTION C (40 MKS)

Answer any two questions in this section in the spaces provided after questions 24

22. (a) Describe the field production of irrigated rice under the following
sub-headings
- (i) Land preparation (7 mks)
- (ii) Water control (6 mks)
- (b) Describe the management of trees grown under various agro- forestry systems
(7 mks)
23. (a) Describe the problems of marketing of agricultural produce
(10 mks)
- (b) Discuss the importance of budgeting in agricultural production
(10 mks)
24. (a) Discuss the importance of irrigation in farming (12 mks)
- (b) Explain the factors that influence the type of irrigation to be used in a farm
(8 mks)
- iii) Control measures (3mks)

**K.C.S.E AGRICULTURE
PAPER 1 2008
QUESTIONS**

SECTION A (30 mks)

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

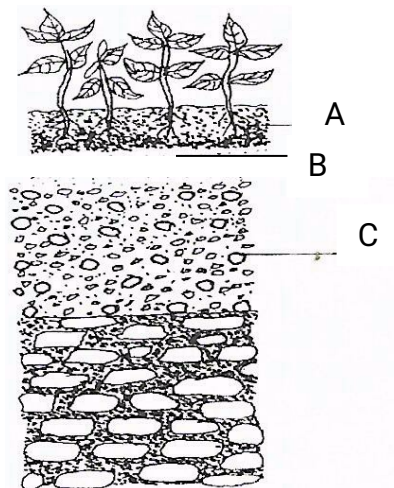
1. Give two factors which characterise small scale farming.
(1mk)
2. State two effects of HIV/AIDS on agricultural production.
(1mk)
3. Give two reasons why farmers are encouraged to practice organic tanning.
(1mk)

4. Distinguish between soil structure and soil texture. State two effects of siltation in dams.
5. List two examples of working capital in crop production.
7. (a) Define the term land reform. (1/2 mk)
- (b) Give three methods of land reforms practised in Kenya. (1 ½ mk)
8. State three ways by which land as a factor of production could be made more productive. (1/2 mks)
9. State three functions of the Coffee Board of Kenya. (1/2 mks)
10. Differentiate between the following terms as used in agricultural economics:
- (a) Fixed input and variable input. (1 mk)
- (b) Journal and ledger book. (1 mk)
11. Give two methods used for seed treatment of tree species before planting in agroforestry. (1 mk)
12. Give two benefits of border planting form of agroforestry to a farmer. (1mk)
13. State three factors which may affect the quality of hay. (1 ½ mks)
14. Give four factors to consider when choosing a nursery site. (2mks)
15. State three methods of controlling insect pests in a crop nursery (1 ½ mks)

- 16 Name one vegetative material used to propagate each of the following crops: (2 mks)
- (a) Bananas
 - (b) Pineapples
 - (c) Irish potatoes
 - (d) Pyrethrum
- 17 Give **four** disadvantages of broadcasting as a method of planting. (2 mk)
- 18 State **four** factors that would determine the number of operations to be carried out on a seedbed before planting. (2 mks)
- 19 State **two** ways by which soil pH may affect crop production. (1 mk)
- 20 Give two conditions under which blossom end rot disease may occur in tomatoes. (1 mk)
- 21 State four factors that contribute to the competitive ability of weeds. (2 mks)

SECTIONS (20 mks) *Answer ALL the questions in this section in the spaces provided*

22. The diagram below illustrates a feature observed after digging the soil several metres deep. Study the diagram carefully and answer the questions that follow.



- a) Identify the feature that the diagram above represents in the study of soil (1mk)

(b) Name the parts of the diagram labelled A, B and C.

(1½ mks)

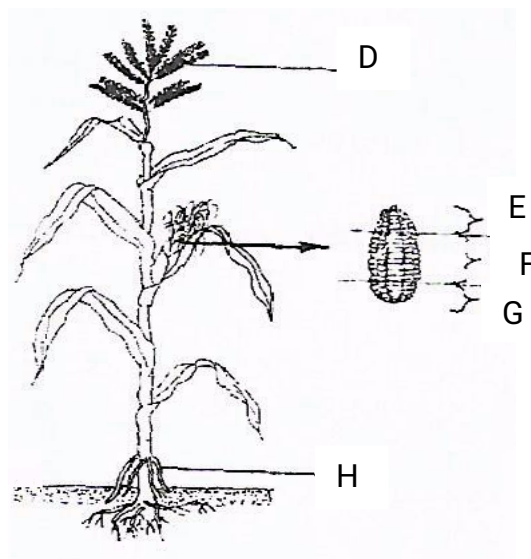
A

B

C

(c) State **two** ways in which the knowledge of the above feature would be of benefit to a farmer. (2 mks)

23 The diagram below illustrates a cereal crop plant and its produce. Study the diagram carefully and answer the questions that follow.



(a) Name one disease that attacks the part of the plant labelled D in the diagram. (1 mk)

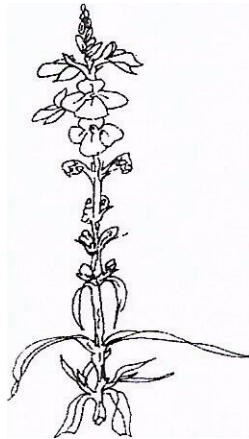
(b) From which section of the produce labelled E, F and G should seeds for planting be obtained? (1 mk)

(c) Give one reason for the answer given in (b) above. (1 mk)

(d) State two functions of the part labelled H in the diagram. (1 mk)

(e) A farmer has a piece of land measuring 90 m by 60 m to plant seeds selected in (b) above at the rate of one seed per hole and a spacing of 90 cm by 30 cm. Calculate the plant population in the whole field if all the seeds germinated, (show your working) (1 ½ mks)

24. The diagram below illustrates a parasitic weed. Study the diagram carefully and answer the questions that follow



- (a) Identify the weed illustrated above. (1 mk)
- (b) Name **two** crops the weed illustrated above commonly attacks. (1 mk)
- (c) State one reason why the weed is referred to as a parasitic weed. (1 mk)
- (d) State two methods for controlling the weed illustrated above. (1 mk)

25 The following is a farm record Mrs Sanda had kept as at 30th June 2006. Study it carefully and answer the questions that follow.

	Ksh
Cash in hand	20000
Cash at bank	66000
Buildings	50 000
Disc ploughs	16000
Debtors	16000
Working tools	12000
Bank overdraft	24 000
Creditors	20000
Loan	50000
Cattle	40 000
Land	80 000

- (a) Prepare the balance sheet from the above information for Mrs Sanda's farm. (6 mks)
- (b) State two benefits of the balance sheet to Mrs Sanda. (1 mk)

SECTION C (40 mks)

Answer any TWO questions in this section in the spaces provided in this booklet.

- 26 (a) State and explain five roles of agriculture in economic development of Kenya. (10 mks)
- (b) Describe measures which should be taken to minimise water pollution on a farm. (10 mks)
27. State and explain:
- (a) Five advantages of crop rotation. (10 mks)
- (b) **Five** factors which may influence the spacing of crops. (10 mks)
28. (a) Explain why settlement schemes were established in Kenya soon after independence. (10 mks)
- (b) State and explain the various land tenure systems practised in Kenya. (10 mks)

**K.C.S.E AGRICULTURE
PAPER 1 2009
QUESTIONS**

SECTION A (30 MKS)

Answer all questions in this section in the space provided

1. List three methods of treating water for use in the farm
(1¹/₂mk)

2. Give two examples for each of the following categories of eater pipes
 - (a) Metal pipes (1mk)

 - (b) Hose pipes (1mk)

3. State four disadvantages of communal land tenure system
(2mks)

4. List four sites on which agro forestry trees can be established on a farm
(2mks)

5. State four financial documents that should be kept on a farm
(2 mks)

6. Give four ways in which check dams control soil erosion (1 mk)

7. List two methods of budding that are used in propagation of plant.
(1 mk)

8. Give two reasons for locating a nursery bed at a well sheltered place
(1 mk)

9. State four ways in which burning of vegetation may lead to loss of soil fertility.
(2 mks)

10. Give two forms in which nitrogen is absorbed from the soil by plants
(1 mk)

11. Why is it necessary to allow freshly cut sorgum (columbos grass) to wilt before Feeding it to livestock? (1)

mk)

12. Give two role of soil micro- organism those are beneficial to crops. (1
mk)

13. Distinguish between the terms hybrid and composite as used in maize breeding. (1mk)

14. Give three reasons for growing crop under optimum temperature conditions. (1¹/₂ mk)

15. State two harmful effect of strong wind on crop production. (1
mk)

16. Give two ways in which cover crop help to conserve water in the soil. (1mk)

17. Give a reason for carrying out each of the following management practice on a tree nursery (1 mk)
(a) Pricking out (1 mk)
(b) Root trimming (1 mk)

18. Out line two ways of controlling damping off disease on vegetable seedlings in a nursery. (1 mk)

19. State four effects of pest with both piercing and sucking mouth parts on crop. (2 mks)

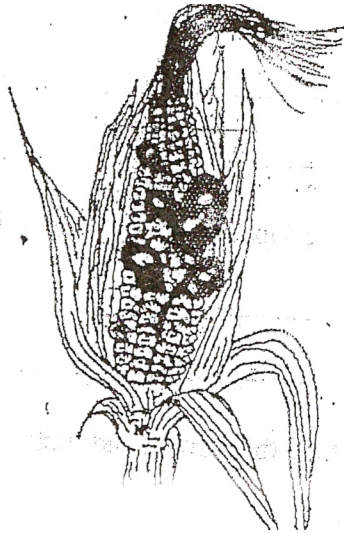
20. Name four natural factors that may influence soil erosion (1
mk)

21. Give two conditions in agricultural production under which opportunity cost is zero (1 mk)

Section B (20 mks)

Answer all the questions in the space provided.

22. The diagram bellow illustrates a maize cob attacked by a disease. Study it carefully and answer the questions that follow.



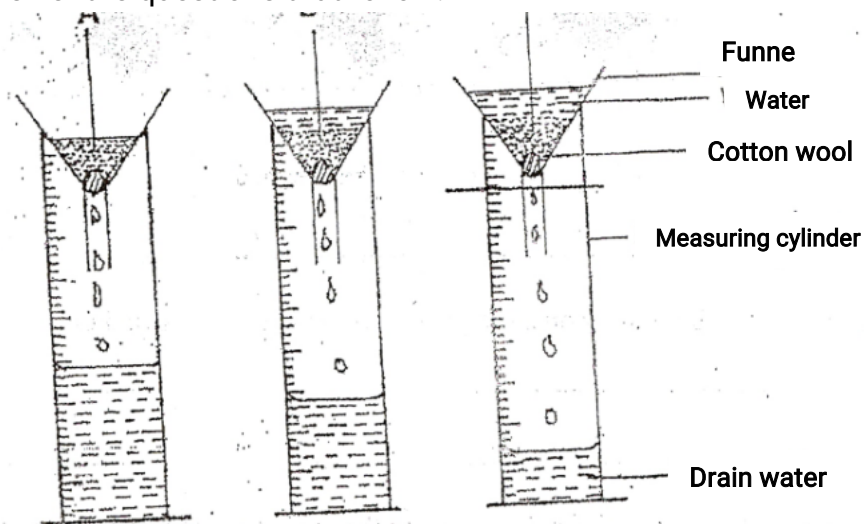
(a)-Identify the disease

(1 mk)

(b) Apart from maize, give two other crops that may be attacked by the disease. (1 mk)

(c) State two methods of controlling the disease (2mks)

23. The diagram below illustrates an experiment on soil. Study it carefully and answer the questions that follow.



(a) State the aim of the experiment (1mk)

(b) If the volume of water illustrated in the measuring cylinder was observed after one hour identify the soil sample labeled A and B. (½mk)

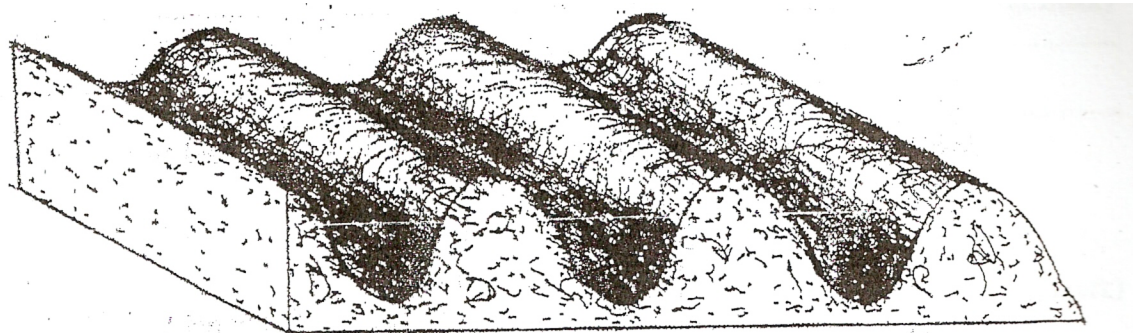
A

B

($\frac{1}{2}$ mk)

- (c) State Two ways in which the soil structure of the sample labeled C above can be improved (2 mks)

24. The diagram below illustrates a final seedbed after a tertiary operation done during land preparation. Study it carefully and answer the questions that follow.



- (a) Name the tertiary operation carried out on the seedbed ($\frac{1}{2}$ mk)

- (b) Describe how the tertiary operation named in one above is carried out. ($\frac{1}{2}$ mk)

- (c) Give two advantages of planting crops on a final seedbed illustrated above (2 mks)

25. What is the function of each of the following ingredients in the preparation of compost manure?

- (a) Wood ash (1mk)

- (b) Top soil (1 mk)

26. Name the deficient nutrient element in plant showing the following symptoms.

- (a) Stunted growth, die back of plant tips leaves roll up and chlorosis along margin of younger leaves. ($\frac{1}{2}$ mk)

- (b) Yellowing of the leaves appear first on lower leaves, leaves turn brown and fall prematurely, stunted growth (mk)

- (c) Leaf curling, yellowing of leaves, tips and edges of leaves are scorched and have small mottles

(¹/2 mk)

(d) Purpling of leaves, stunted growth, slender stalks and lateral buds remain dormant (2 mks)

27. Why is the use of the following items essential during the harvesting of tea?

(i) plucking stick (1 mk)

(ii) Woven basket (1 mk)

(b) The diagram below illustrate a field managment practice in tomatoes .study it carefully and answer the questions that follow.



(i) Identify the field practice (½ mk)

(ii) State three reasons for carrying out the practice (1½)

SECTION C 40MKS

ANSWER ANY TWO QUESTIONS FOR THIS SECTION

28.(a) Describe the production of dry beans (phaseolus vulgaris) under the following sub heading:

(i) Varieties common in Kenya (2mks)

(ii) Selection and preparation of planting materials (3mks)

(iii) Planting and weeding (5mks)

(b) Describe ten safety precautions that should be taken when using herbicides to control weeds
(10 mks)

29. (a) Explain five advantages of mulching in crop production
(5mks)

(b) Outline Five activities that may be undertaken in organic farming
(5mks)

(c) Discuss Ten benefits a farmer is likely to get by using vegetative Propagation In production of oranges
(10 mks)

30. (a) Explain Ten roles of a farm manager in agricultural production
(10mks)

(b) Describe five role of agricultural based women group in farming (5mks)

K.C.S.E AGRICULTURE PAPER 1 2010 QUESTIONS

SECTION A (30 mks)

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

- 1 Give **two** disadvantages of intensive system of fanning. (1 mk)
- 2 List **four** methods of farming. (2 mks)
- 3 Give the meaning of the following terms:
 - (a) Nitrogen fixation into the soil (1 mk)
 - (b) Phosphorus fixation in loss of soil fertility (1 mk)
4. Give **four** reasons-for keeping livestock health records on the farm. (2 mks)
5. Explain the relationship between scarcity and choice as used in agricultural economics. (2 mks)
6. State two reasons for land fragmentation in Kenya. (1 mk)
7. Give **four** advantages of individual owner operator tenure system as practised in Kenya. (2 mks)
8. State **four** features that should be considered when choosing water pipes for use on the farm. (2 mks)
9. Give **four** reasons for treating water for use on the farm. (2 mks)
- 10 Name **four** statutory boards that are involved in the marketing of crop produce in Kenya. (2 mks)
- 11 State **four** mketing functions of Kenya Co-operative Creameries (K.C.C.). (2 mks)
- 12 Give **two** reasons for carrying out each of the following operations in land preparation:
 - (a) rolling; (1 mk)
 - (b) levelling. (1 mk)
- 13 Name **three** recommended practices that should be carried out when clearing the bush during land preparation. (1 ½ mks)
- 14 State **five** advantages of zero grazing. (2 ½ mks)
- 15 Give **four** factors that would determine the stage at which a crop is harvested. (2 mks)

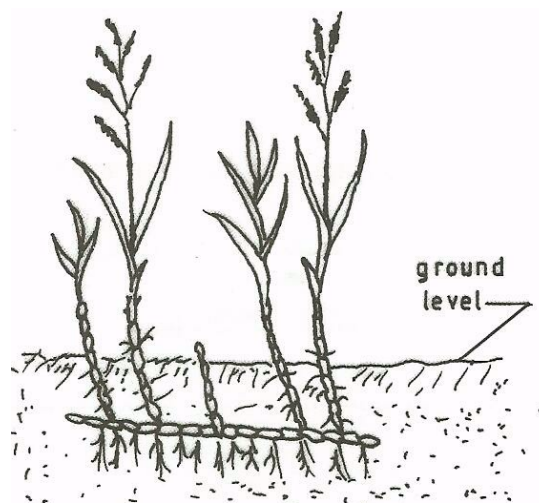
16 Name **two** classes of weeds on the basis of each of the following:
(1 mk)

- (a) Growth cycle; (1 mk)
(b) Plant morphology (1 mk)

SECTION B (20 mks)

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

17. Below is a diagram of a weed. Study the diagram carefully and answer the questions that follow.



- (a) Identify the weed illustrated above.
(¹/₂ mk)
- (b) Why is the weed illustrated above difficult to control? (1 mks)
- (c) State **four** ways in which the weed can be controlled in a field of maize.
(2 mks)

18. The table below shows pH values of different soil samples. Study it and answer the questions that follow.

<u>Soil Sample</u>	<u>pH value</u>
S ₁	3
S ₂	4
S ₃	5
S ₄	6
S ₅	7
S ₆	8
S ₇	9
S ₈	10

- (a) Which soil sample has the highest acidity?
(1/2mk)
- (b) State **two** ways in which the pH value of sample S can be lowered.
(1 mk)
- (c) Which of the above soil samples is suitable for growing tea? (1/2 mk)

19 Explain how agro forestry tree seeds should be prepared after collection in readiness for planting.
(4 mks)

20. (a) The diagrams below represent two ways in which a crop was pruned. Study them carefully and answer the questions that follow.



- (i) Which diagram represents the correct way of pruning?
(¹/₂ mk)
- (ii) Give a reason for your answer in (i) above. (1 mk)
- (b) State **two** ways in which pruning assists in controlling crop diseases.
(1 mk)
- 21 On 1st January 2009, Kaburu Farm started farm operations with Ksh 30,000 cash. During the month, the farm made the following transactions. Study the transactions and prepare a cash analysis for Kaburu Farm for the month of January. (5 mks)

<u>Date</u>	<u>Transaction</u>	<u>Amount (Ksrri)</u>
05/01/09	Livestock sales	80,000
08/01/09	Crop sales	50,000
15/01/09	Bought seed for planting	7,500
20/01/09	Paid K.F.A. for fertilizer	16,400
25/01/09	Bought livestock feeds	50,000
30/01/09	Paid wages for planting & weeding	56,000
31/01/09	Received cash from K.C.C. for milk delivery	120,000
31/01/09	Paid transport charges for milk delivery	9,000

- 22 (a) What do the figures 18:46:10 on a fertilizer bag represent?
(11 mks)
- (b) Calculate the quantity of filler materials in the fertilizer in (a) above. (1 mk)

SECTION C (40 mks)

Answer any two questions in this section in the spaces provided after question 25.

- 23 (a) Explain eight factors that can encourage soil erosion. (8 mks)
- (b) Describe the seven management practices that should be carried out on a vegetable nursery after sowing seeds until the seedlings are ready for transplanting. (7 mks)
- (c) State **five** soil factors that should be considered when selecting a crop to grow in an area
- 24 (a) Outline **five** ways in which high temperature affects agricultural production in Kenya. (5 mks)
- (b) (i) Explain **four** precautions that should be observed when harvesting cotton. (4 mks)
- (ii) Describe the harvesting of sugar cane. (3 mks)
- (c) Explain **eight** factors that should be considered when planning to set up a farm business. (8 mks)
- 25 (a) Explain **six** physical methods that can be used to control crop pests on the farm. (6 mks)
- (b) Describe the production of bulb onions under the following sub-headings:
(i) field management; (4 mks)
(ii) harvesting. (3 mks)
- (c) Explain **seven** factors that influence seed rates in crop production. (7 mks)

**K.C.S.E AGRICULTURE
PAPER 1 2011
QUESTIONS**

SECTION A (30 mks)

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 mk)
- (b) Explain how each of the practices named in (a) above achieves optimum Plant population. (1 mk)
- 2 Give **two** examples for each of the following types of costs incurred in broiler production.
- (a) variable costs; (1 mk)
- (b) fixed costs. (1 mk)
- 3 State **four** disadvantages of mono cropping in crop production. (2 mks)
- 4 Give **three** reasons for early seedbed preparation. (1 ½ mks)
- 5 State two ways in which crop rotation controls weeds.

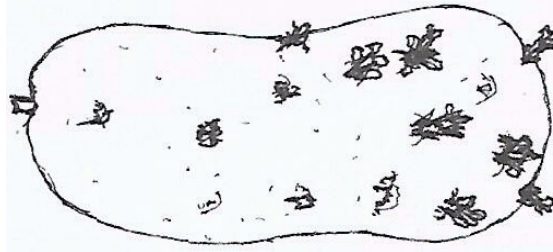
(1 mk)

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

SECTION B (20 mks)

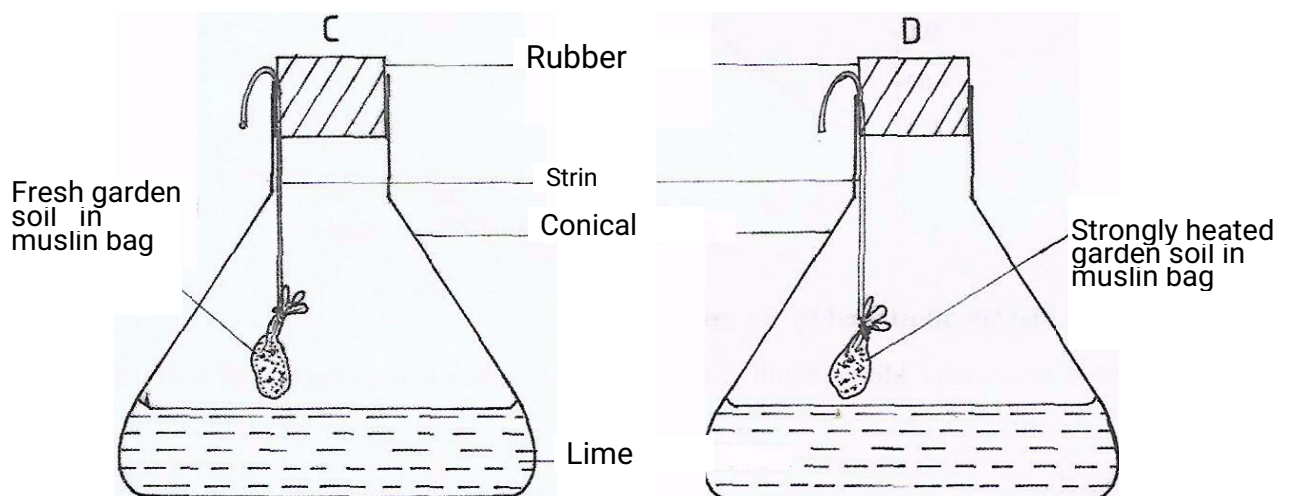
Answer all the questions in this section in the space provided.

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



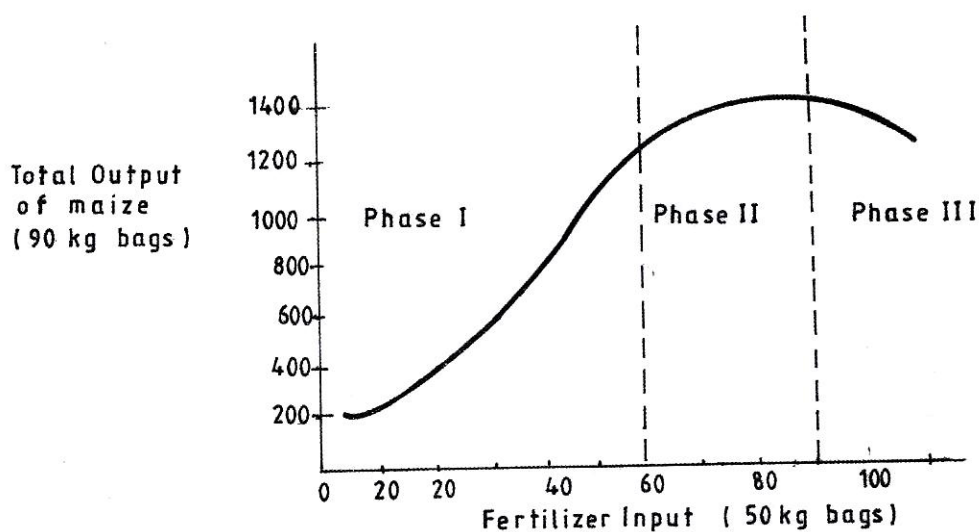
- (a) Name the practice used in preparing the seed potato above for planting. (1 mk)
- (b) Describe the procedure followed in preparing seed potatoes for planting. (3 mks)

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

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



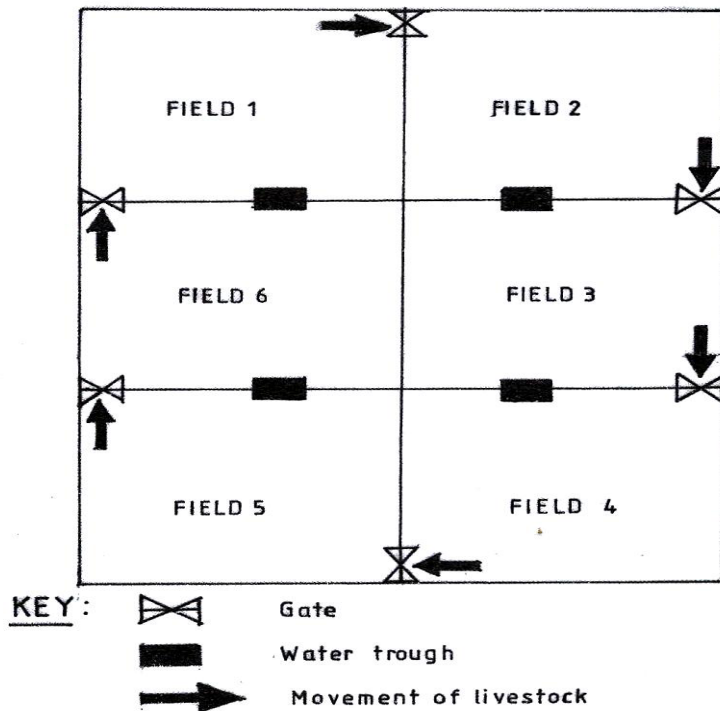
- a) Identify the law illustrated by the graph.
- b) Explain how each additional unit of fertilizer input relates to the total output of maize in phases II and III.
- Phase II (1mk)
- Phase III (1mk)
- c) State the importance of the law identified in (k) above to the maize farmers (1mk)
- 23 The following 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.

- Rent received Sh. 10,000
- Egg sale Sh. 60,000

(3 mks)

- 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 mks)

b) State five advantages of the grazing system illustrated above (2½ mks)

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



- (a) Identify the weed.
(1/2 mk)
- (b) State **two** harmful effects of the weed illustrated above.
(2mks)

SECTION C (40 mks)

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 mks)
- (b) Give a reason for each of the farm records kept on a dairy farm. (5 mks)
- (c) Describe the production of cabbages under the following sub-headings:
 - (i) seedbed preparation; (3 mks)
 - (ii) transplanting of seedlings. (7 mks)

27.

- (a) Describe the effects of pests on maize in the field. (6 mks)
- (b) (i) Describe the procedure of harvesting pyrethrum. (4 mks)
- (ii) Explain the precautions that should be observed during the harvesting Of pyrethrum. (3 mks)

1.

- a) Describe the cultural methods of controlling soil erosion.
- b) Explain five ways in which biotic factors influence crop production in agriculture (5 mks)
- c) Describe how the stem cuttings for propagating tea are prepared.

**K.C.S.E AGRICULTURE
PAPER 1 2012
QUESTIONS**

SECTION A

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

1. Name the part harvested for each of the following crops:

(a) onions (1/2 mk)

(b) carrots..... (1/2 mk)

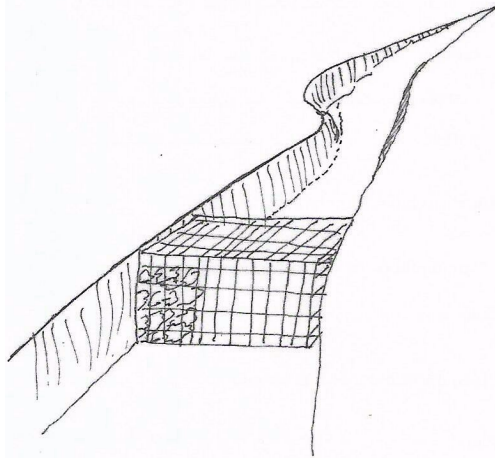
(c) coffee(¹/₂
mk)

2. State **four** biotic factors that influence crop production. (2mks)
3. Name **four** methods of controlling crop pests (2mks)
4. State **four** ways of harvesting water on the farm. (2mks)
5. Name **four** farm records that should be kept by a poultry farmer. (2mks)
6. State **four** disadvantages of using organic manure in crop production. (1mk)
7. Give **two** ways in which pastures are classified. (2mks)
8. State **four** disadvantages of organic mulches. (2mks)
9. Give **five** advantages of practising crop rotation. (2 ½ mks)
10. State **two** advantages of earthing up in crop production.
11. Give **four** harmful effects of weeds on crop production (½ mks)
12. State **three** advantages of shifting cultivation. (2 ½ mks)
- a. **Give five** advantages of zero grazing in dairy farming.
- b. State **four** factors that determine the stage at which a crop is harvested. (2mks)
- c. State **four** ways in which land reform can be implemented in Kenya. (2mks)
- d. **Give four** factors that influence the number of secondary cultivations in seedbed preparation. (2 mks)

SECTION B (20 mks)

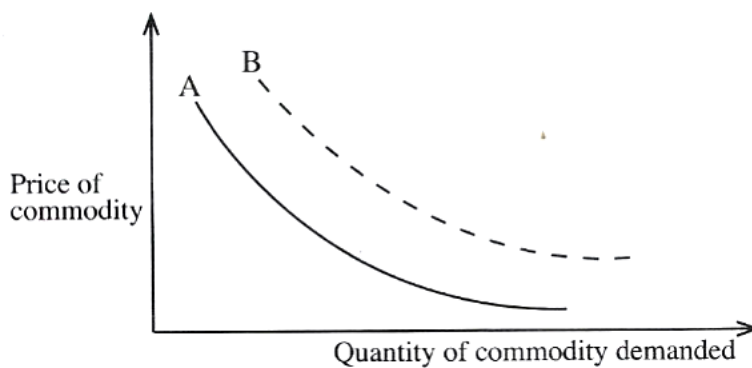
Answer ALL the questions in this section in the spaces provided.

17. The illustration below shows a structure used for controlling soil erosion. Study it carefully and answer the questions that follow.



- a) Identify the structure (1mk)
 - b) Explain two ways in which the structure helps to control soil erosion
- (2mks)

18. The diagram below illustrates the law of demand in agricultural marketing. Study it and answer the questions that follow



- a) Give a reason for the shape of the curve labeled A (1mk)
- b) If the price of the commodity remains constant, explain three factors that can cause the curve to shift from A to B

19. The diagram below illustrate common weeds in arable land. Study them carefully and answer the questions that follow



- a) Identify the weed labeled D (1mk)
- b) Classify the weed labeled C according to plant morphology (1mk)
- c) Give one reason why it is difficult to control the weed labeled D (1mk)

20. The diagram below illustrates an agroforestry practice. Study it and answer the questions that follows



Calliandra

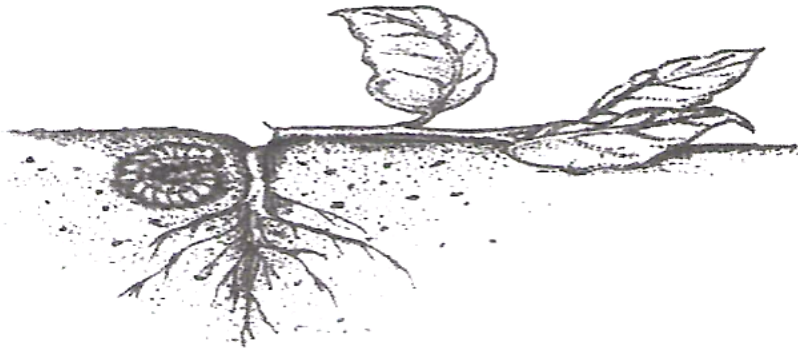
a) Identify the agroforestry practice illustrated above.

(1mk)

(b) Explain **three** benefits of the practice illustrated above.

(3mks)

21. The diagram below shows a pest and the damaged crop. Study it and answer the questions that follow.



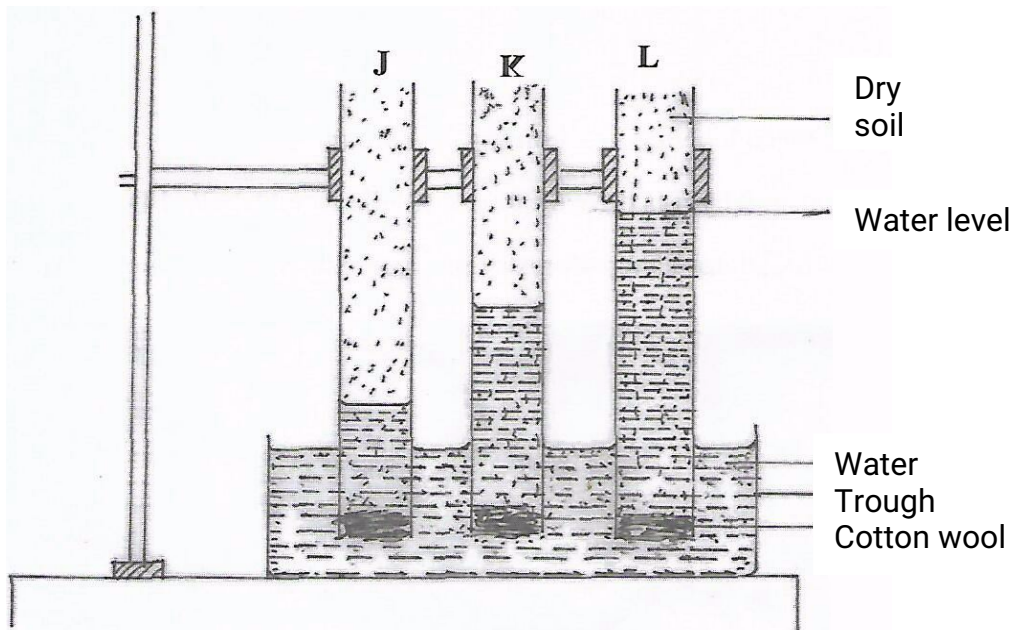
(a) Identify the crop pest illustrated above.

(1mk)

(b) Explain **two** ways of controlling the pest

(2mks)

22. The diagram below illustrates an investigation on a property of soil using soil samples labelled J, K and L.



(a) If the levels of water shown in the diagram were observed after three hours,

a) If the levels of water shown in the diagram were observed after three hours, name the property of soil being investigated. (1mk)

- b) What is the relationship between the soil property named in (a) above and the size of soil particles? (1mk)
- c) Which soil sample would be suitable for growing paddy rice? (1mk)

SECTION C (40 mks)

*Answer any **TWO** questions from this section in the spaces provided after question 25.*

- 23 (a) Explain **five** factors that should be considered in farm planning. (10 mks)
- (b) Describe the transplanting of tomato seedlings. (10 mks)
24. a) Explain **five** factors that should be considered when siting a vegetable nursery. (5mks)
- b) Explain **six** factors that should be considered when selecting seeds for planting. (6mks)
- c) Explain the different ways in which each of the following environmental factors influence crop production: (4mks)
- i. Temperature (4mks)
- ii) Wind (5mks)
25. a) Outline the information contained in purchase order (5mks)
- b) Describe the harvesting of tea (6mks)
- c) Explain the importance of irrigation in crop production (5mks)
- d) Describe the role of magnesium in crop production (4mks)

**K.C.S.E AGRICULTURE
PAPER 1 2013
QUESTIONS**

SECTION A (30 mks)

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

- 1 State **four** reasons for intercropping. (2 mks)
- 2 Give **four** advantages of intensive farming. (2 mks)
- 3 Give **four** reasons why land should be prepared early in readiness for planting. (2 mks)
- 4 State **four** reasons for deep ploughing during land preparation. (2 mks)
- 5 State **two** conditions that must exist for a market to be purely competitive. (1 mk)
- 6 Distinguish between grading and standardization in agricultural marketing. (2 mks)
- 7 State **four** benefits of agroforestry to a maize crop. (2 mks)
- 8 Distinguish between intensive hedgerow and border planting forms of agroforestry. (2 mks)
- 9 What is meant by each of the following terms: (3 mks)
- (a) mixed cropping
 - (b) monocropping
 - (c) intercropping.
- 10 State **four** advantages of timely planting. (2 mks)
- 11 State **four** advantages of row planting in crop production. (2 mks)

mks)

12 State **four** reasons why a nursery is important in crop production. (2

mk)

13 Distinguish between monopoly and monopsony. (2 mks)

14 Name the plant part used for vegetative propagation of each of the following plants:

(a) cassava (1/2 mk)

(b) sisal (1/2 mk)

(c) pyrethrum (1/2 mk)

(d) sweet potatoes.

(1/2 mk)

15 State **four** characteristics of a good vegetable seedling. (2

mks)

SECTION (20 mks)

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

16 The photograph below illustrates a method of irrigation.



(a) Identify the method of irrigation illustrated above. (1
mk)

(b) State **two** maintenance practices that are carried out on the equipment used in the method illustrated above. (2 mks)

(c) Give **one** advantage drip irrigation has over the method of irrigation illustrated above in crop disease control. (1
mk)

17 The table below shows a format of a farm record.

Date	Disease Symptom	Livestock affected	Drugs used	Cost of treatment	Remarks

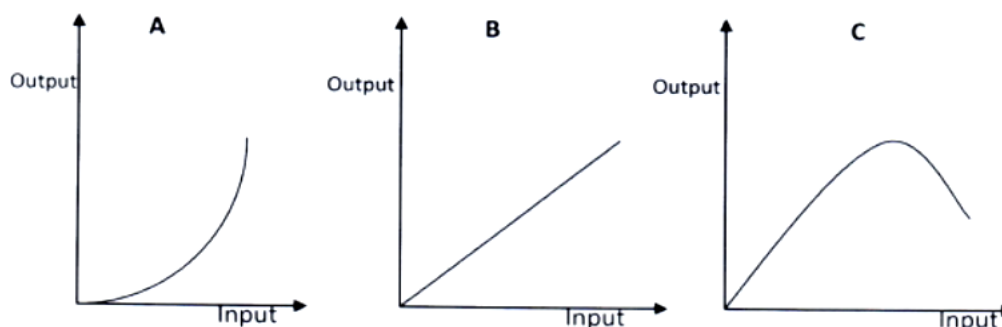
- (a) Name the farm record illustrated above. (1 mk)
- (b) Give **two** uses of the farm record shown above. (2 mks)

18 The table below represents an account in a financial book of a poultry farmer.

POULTRY							
DR				CR			
Date	Particulars	Folio	Amount	Date	Particulars	Folio	Amount

- (a) Identify the financial book. (1 mk)
- (b) On 10th January 2011, the poultry farmer bought 5 bags of layers mash worth Ksh. 10 000/- and sold 100 trays of eggs for Ksh. 20 000/- on 10 January 2011. Enter these transactions in the account above. (3 mks)

19 The following illustrations show different production function curves in agricultural economics. Study them and answer the questions that follow.



- (a) Identify the production function curves labelled A and B. (2 mks)
- A
- B
- (b) What does the law derived from the production function labelled C state? (1 mk)
- (c) (i) Which **one** of the three production function curves is rare in Agriculture? (1 mk)
- (ii) Give a reason for your answer in (c)(i) above. (1 mk)

20 The following is a list of plant nutrients;

Copper, Calcium, Nitrogen, Molybdenum, Zinc, Phosphorus, Carbon, Sulphur, Iron and Magnesium.

Which of the above plant nutrients are:

- (a) macro-nutrients (1 mk)
- (b) micro-nutrients (1 mk)
- (c) fertilizer elements (1 mk)
- (d) liming elements. (1 mk)

SECTION C (40 mks)

Answer any *two* questions from this section in the spaces provided after question 23.

21 (a) Explain **eight** cultural methods of soil and water conservation. (8 mks)

- (b) Explain **four** ways in which:
 - (i) HIV/AIDS limits agricultural production (4 mks)
 - (ii) government policy improves agricultural production (4 mks)
 - (iii) low level of education and technology influences agriculture. (4 mks)

22 (a) Explain **seven** physical methods of pest control. (7 mks)

- (b) Explain **eight** factors that contribute to the competitive ability of weeds. (8 mks)
- (c) Describe the harvesting of coffee. (5 mks)

23 (a) Describe the preparation and handling of stem cuttings when planting napier grass. (5 mks)

- (b) Describe the production of onions under the following sub-headings:
 - (i) seedbed preparation (3 mks)
 - (ii) field management (4 mks)
 - (iii) harvesting. (3 mks)

(c) Give **five** reasons why land consolidation should be encouraged in Kenya.

**K.C.S.E AGRICULTURE
PAPER 1 2014
QUESTIONS**

SECTION A (30 mks)

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

1. State **four** advantages of organic farming. (2 mks)

2. Give **four** Factors that can increase seed rates in crop production. (2 mks)

3. State **four** roles of organic matter in sandy soils. (2 mks)

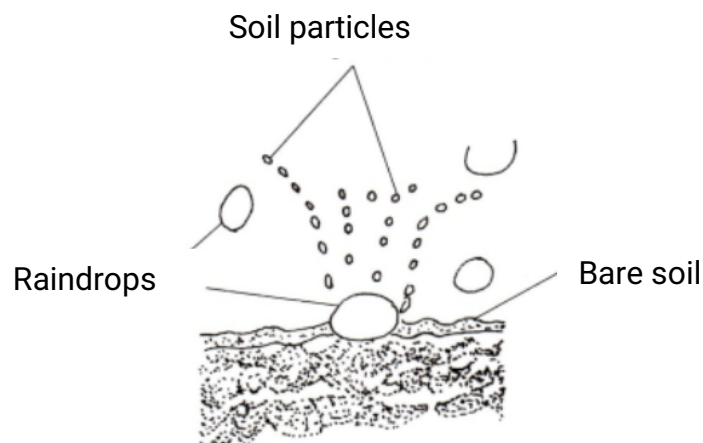
4. Give **four** reasons for minimum tillage. (2 mks)
5. What is meant by each of the following in crop production?
 (a) Crop rotation; (2 mks)
 (b) Mulching; (2 mks)
6. Give **four** reasons for inverting soil slices during primary cultivation. (2 mks)
7. State **four** cultural ways of controlling couch grass(*Digitaria scalarum*). (2 mks)
8. (a) Name **three** vegetative parts that can be used to propagate pineapples. (1 ½ mks)
 (b) State three disadvantages of vegetative propagating pineapples (1 ½ mks)
9. Name **three** sources of underground water. (1 ½ mks)
10. What is meant by each of the following in agroforestry?
 (a) Pollarding; (1 mk)
 (b) Coppicing; (1 mk)
 (c) Lopping. (1 mk)
11. State the information included in a sales receipt when a farmer is selling eggs. (2 ½ mks)
12. State **two** reasons for practising agroforestry on a
 (a) River- bank; (1 mk)
 (b) Steep slope. (1 mk)

13. State **three** disadvantages of plastic pipes to convey water. (1 ½ mks)
14. State **three** causes of blossom end rot in tomatoes. (1 ½ mks)
15. What is meant by the term preference and choice as used in agricultural economics? (1 mk)

SECTION B (20 mks)

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

16. (a) Distinguish between straight and compound fertilisers. (1 mk)
- (b) A farmer applied 200kg of CAN (20%) per hectare on his five hectares maize crop.
- Calculate the amount of nitrogen the farmer applied on his crop. Show your working. (4 mks)
17. The diagram below illustrates a type of soil erosion.



- (a) Identify the type of erosion (1 mk)
- (b) How does the type of erosion shown above occur?
- (c) How does cover cropping help control the type of erosion shown above?

18. The table below shows the population and gross domestic products of countries A and B .

COUNTRY	GROSS DOMESTIC PRODUCT (million shillings)	POPULATION (million)
A	1800	36
B	1200	15

(a) Calculate the per capita income for each country. Show your working. (2 mks)

(b) Which of the two countries is more developed economically? (1 mk)

(c) Give a reason for your answer in (b) above (1 mk)

(c) How can agricultural increase the gross domestic product of a country? (1 mk)

19. The photograph below shows weeds labelled A and B



A



B



- (a) Identify the weed labelled A. (1 mk)
- (b) State **one** Control measure of weed labelled A (1 mk)
- (c) Which category of herbicide will be most suitable to control the weed labelled A and B? (1 mk)
- (d) Give a reason your answer on weed B in (c) above. (1 mk)

SECTION C (40 MKS)

Answer any **two** questions from this section in the spaces provided

20. (a) Describe the various risks and uncertainties in crop farming. (10 mks)
- (b) State the functions of Young Farmers Clubs in Kenya. (5 mks)
- (c) Give the reasons for land registration in Kenya. (5 mks)
21. (a) Explain **five** ways in which the Kenyan government can improve maize Production to ensure food security in the country. (10 mks)
- (b) Why is pruning done in crop production? (10 mks)
22. (a) The tables below give information on the supply and demand schedules for tomatoes on a market.

Table 1: Prices and quantities of tomatoes supplied.

Tomatoes (kg)	Price per kg (Kshs.)
150	16.00
130	14.20
125	13.80
112	13.00
106	12.70
85	11.80
50	10.60
42	10.40
30	10.20
25	10.10

Table 2: Prices and quantities of tomatoes supplied.

Tomatoes (kg)	Price per kg (Kshs.)
80	18.00
87	16.70
101	15.50

119	14.10
135	13.20
155	12.40
171	11.80
185	11.30
191	11.10
205	10.80

(i) Using the above data, plot the supply and demand curves on the same axes. The axes have been labelled for you. (7 mks)

(ii) Determine the price at which 120kg of tomatoes were supplied in the market. (1 mk)

(iii) How many kilogram of tomatoes were bought at a market price of 13.00? (1 mk)

(iv) What was the equilibrium price for tomatoes on the market? (1 mk)

- (b) Describe the production of maize under the following subheadings:
- (i) seedbed preparation; (4 mks)
 - (ii) Planting; (3mks)
 - (iii) Harvesting. (3 mks)

**K.C.S.E AGRICULTURE
PAPER 1 2015
QUESTIONS**

SECTION A (30 MKS)

Answer all the questions in the spaces provided

1. State four reasons for applying phosphatic fertilizers during planting
(2mks)
2. Give four ways in which crop pests are classified. (2 mks)
3. State four advantages of landlordism and tenancy (2 mks)
4. Differentiate between apiculture and aquaculture. (1 mk)
5. State four factors that affect the quality of farm-yard manure. (2 mks)
6. Give four reasons why seed propagation is encouraged in crop production. (2 mks)
7. State four factors that can make a farmer choose a jembe for primary tillage. (2 mks)
8. Give four factors that affect the quality of hay. (2 mks)
9. Name five entries that can be made on a cattle breeding record. (2 mks)

10. Give two reasons for testing soil. (1 mk)
11. Name three forms of horticulture practiced in Kenya. (1 mk)
12. Give two reasons for constructing a shade over a nursery. (1 mk)
13. Name four appropriate sites for agroforestry trees. (2 mks)
14. State four personal safety measures a farmer should consider when handling herbicides. (2 mks)
15. Give two reasons why a maize plant growing in a cabbage crop field may be treated as a weed. (1 mk)
16. Name four classes of weeds. (2 mks)
17. State four agricultural activities that may pollute water. (2 mks)

SECTION B (20 mks)

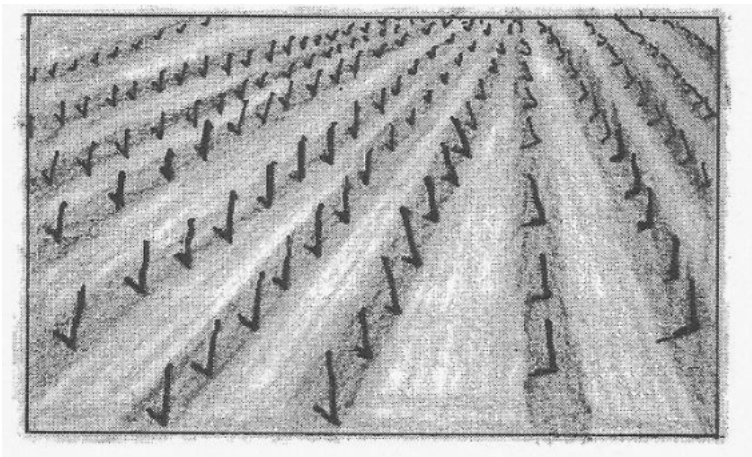
Answer all the questions in the spaces provided.

18. A farmer applied a compound fertilizer 10:20:0 on a three hectares piece of land at a rate of 180kg N per hectare.
- (a) Calculate the quantity of the compound fertilizer the farmer applied on the piece of land. (3 mks)
- (b) What do the figures 10 and 20 stand for in the compound fertilizer? (2 mks)
19. The diagram below illustrates a nursery practice.



- a) Identify the practice (1 mk)
- b) Describe the procedure followed in carrying out the practice illustrated. (2 mks)
- c) State two advantages of the practice illustrated above in crop production. (2 mks)

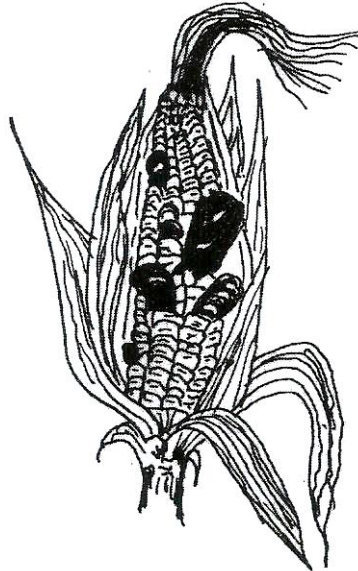
20. The diagram below shows crop establishment using a certain method of planting.



- a) Name the method of planting used for the crop (1 mk)
- b) State two advantages of the planting method used for the crop (2 mks)
- c) Explain two factors that determine the depth of planting (2 mks)

mks)

21. Below is a diagram showing a crop disease



- a) Identify the crop diseases (1 mk)
- b) State three control measures for the crop disease (3 mks)
- c) Name the category in which the crop disease is classified (1 mk)

SECTION C (40 mks)

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

22. (a) Explain how each of the properties of rainfall and light influence crop production.
- (i) rainfall; (8 mks)
- (ii) light. (4 mks)
- b) Describe rice production under the following sub-headings:
- (i) Land preparation; (2 mks)
- (ii) Water control; (2 mks)
- (iii) Fertilizer application; (2 mks)

(iv) Weed control.

(2 mks)

23.

a) Explain five factors that can increase the demand for tea on a market.

(10 mks)

b) State four ways of improving labour productivity on the farm.

mks)

(4

c) The following information was obtained from Upendo Farm inventory on 1st January 2013.

ITEM	VALUE (Ksh)
Layers	80,000
Beef cattle	240,000
Beans in store	40,000
Cash at hand	15,000
Land	550,000
Machinery	250,000
Buildings	310,000
Calves	75,000

On the same day the farm recorded the following:

ITEM	VALUE (Ksh)
Wages payable	5,000
Interest payable	8,000
Bank loan	725,000
Milk sales on credit	12,000
Chicken sales on credit	6,000
Cash in bank	52,000
Purchase of fertilizer on credit	26,000
Taxes payable	3,000

Using the information provided prepare a balance sheet for Upendo Farm.
mks)

(6

24.

a) Describe the field management practices for tomatoes

(12 mks)

b) Describe four types of soil erosion by water

mks)

(8

K.C.S.E AGRICULTURE PAPER 1 2016 QUESTIONS

SECTION A (30 mks)

Answer all the question in this section in the spaces provided

1. List four factors that would determine the stage at which *is* crop is harvested

2. State two ways in which crop rotation controls weeds

3. Give two factors which characterize small scale farming.

4. Give two examples for each of the following categories of water pipes.

(a) Metal pipes

(1 mk)

(b) Hose pipes

(1 mk)

5. State the information included in a sales receipt when a farmer is selling eggs.

(2

½ mks)

6. State four characteristics of a good vegetable seedling

(2

mks)

7. Name three forms of horticulture practiced in Kenya

(1

½ mks)

8. State two mechanical methods of separating soil particles according to size, during soil analysis

(1 mk)

9. List four disadvantages of mono cropping in crop production

(2

60

mks)

10. State two reasons for practicing agro forestry on

a) River bank (1mk)

b) Steep slope (1 mk)

11. Give three reasons for growing crops under optimum temperature conditions (1
½ mks)

12. State four reasons for treating water for use on a farm

(2mks)

13. Outline two ways of controlling damping off disease on vegetable seedlings
in a nursery (1 mks)

14. State four factors that affect the quality of farm yard manure (2

mks)

15. Distinguish between grading and standardization in agricultural marketing (2

mks)

16. Give four disadvantages of broadcasting as a method of planting

(2 mks)

17. State three practices which encourage soil erosion (1

½ mks)

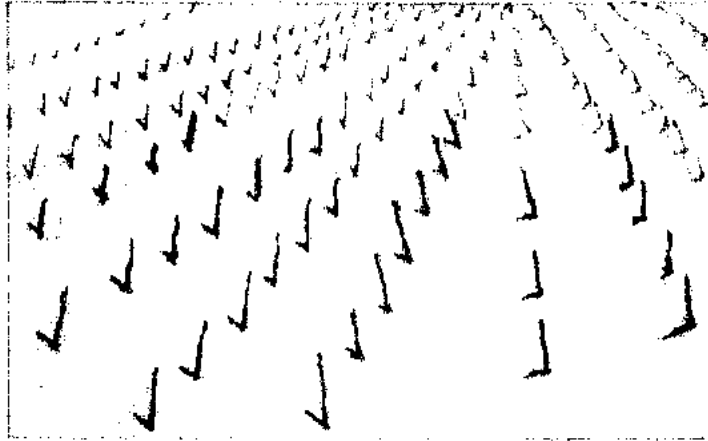
18. Name two types of non competitive mkets (1mk)

SECTIN B(20 mks)

Answer all questions in this section in the spaces provided

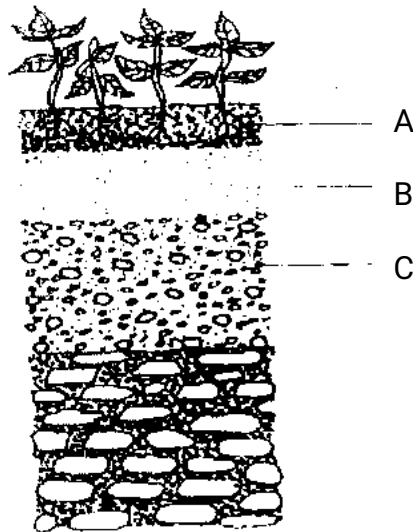
19. The diagram below shows crop establishment using a certain method of planting.

Study it carefully and the answer the questions that follow



- a) Name the method of planting used for the crop (1 mk)
- b) State two advantages of the planting method used for the crop (2 mks)
- c) State two factors that determine the depth of planting (2 mks)

20. The diagram below illustrates a features observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.



a) Identify the feature that the diagram above represents in the study of soil (1 mk)

b) Name the parts of the diagram labeled A, B and C (1 ½ mks)

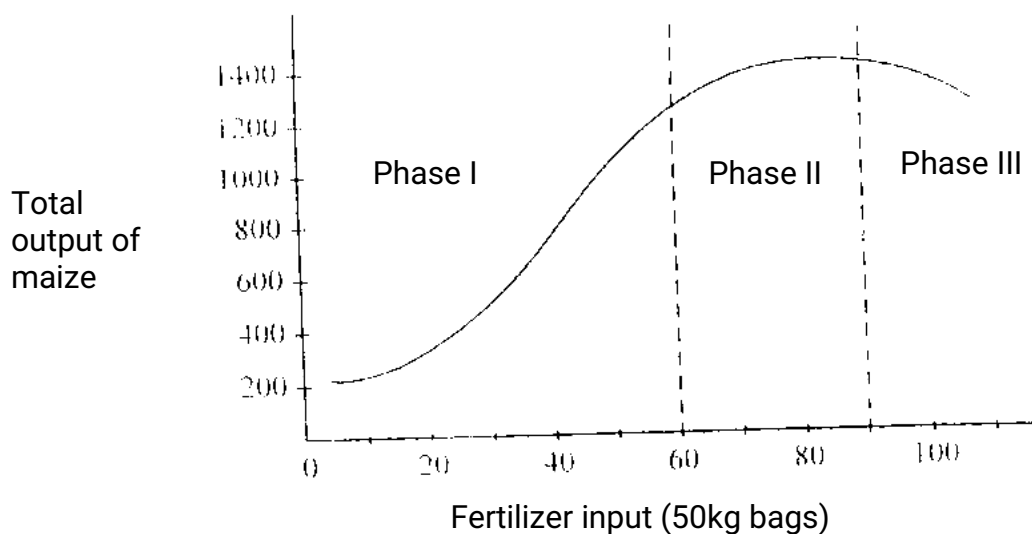
A

B

C

c) State two ways in which the knowledge of the above feature would be of benefit to a farmer (2 mks)

21. 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 (1 ½ mks)

b) Explain how each additional unit of fertilizer input relates to the total output of maize in phase II and III

Phase II (1 mk)

Phase III (1 mk)

c) State the importance of the law identified in (i) above to the maize farmer (1 mk)

22. The following is a list of plant nutrients ; copper, calcium, nitrogen, molybdenum, zinc, phosphorous, carbon, sulphur, iron and magnesium. Which of the above plant nutrients re

a) Macro-nutrients (1 mk)

b) Micro nutrients (1 mk)

c) Fertilizer elements (1mk)

d)Liming elements (1 mk)

23. The table below show pH value of different soil samples. Study it and answer the questions that follow

a) Which soil sample has the highest acidity? (1 mk)

soil sample	pH value
S ₁	3
S ₂	4
S ₃	5
S ₄	6
S ₅	7
S ₆	8
S ₇	9
S ₈	10

a) Which soil sample has the highest acidity? (1 mk)

b) State two ways in which the pH value of sample S₈ can be lowered (1mk)

c) Which of the above soil samples is sui table for growing tea? (1mk)

SECTION C (40 mks)

Answer any two questions from this section in the space provided

24. (a) Outline the information contained in a purchase order. (5 mks)
(b) Describe the harvesting of tea. (6 mks)
(c) Explain the importance of irrigation in crop production. (5 mks)
(d) Describe the role of magnesium in crop production. (4 mks)
25. (a) Describe the effects of pests on maize in the field. (6 mks)
(b) (i) Describe the procedure of harvesting pyrethrum. (4 mks)
(ii) Explain the precautions that should be observed during the harvesting of pyrethrum. (3 mks)
(c) Describe the cultural methods of controlling soil erosion. (7 mks)
26. (a) Explain eight cultural methods of soil and water conservation. (8 mks)
(b) Explain four ways in which:
(i) HIV/AIDS limits agricultural production. (4 mks)
(ii) Government policy improves agricultural production. (4 mks)
(iii) Low level of education and technology influence agriculture. (4 mks)



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