AGRICULTURE PAPER ONE QUESTIONS

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SAMPLE PAPER 1

SECTION A (30MARKS)

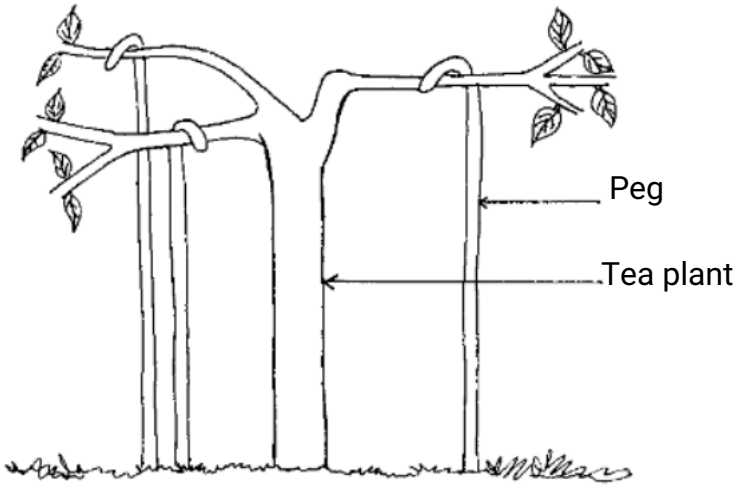
ANSWER ALL QUESTIONS

1. List down two processes of weathering (2mks)
2. Give two characteristics of a perfect market (2mks)
3. Differentiate between afforestation and re-afforestation (2mks)
4. (a) Define the term tissue culture (1mk)
   (b) Outline two benefits of tissue culture to a farmer (2mks)
5. State two ways a government can minimise risks and uncertainties (2mks)
6. List two disadvantages of shifting cultivation (2mks)
7. (a) Define broadcasting as a method of planting (1mk)
   (b) List two advantages of row planting (2mks)
8. (a) What is multi-storey cropping? (1mk)
   (b) State two benefits of multi-storey cropping (2mks)
9. (a) What is a co-operative? (1mk)
   (b) Outline three functions of a farmers co-operative (3mks)
10. (a) Name four structures that can be used to store water in a farm (2mks)
    (b) Enumerate two reasons why water treatment is important in a farm (2mks)
11. (a) Define the term mulching (1mk)
    (b) List two importances of mulching (2mks)

SECTION B (20MARKS)

ANSWER ALL QUESTIONS

12. The diagram below shows a method of prunning in tea production. Use it to answer the questions that follow.



(a) Identify the method shown in the diagram (1mk)

(b) Outline the procedure of carrying out the method on a tea bush (4mks)

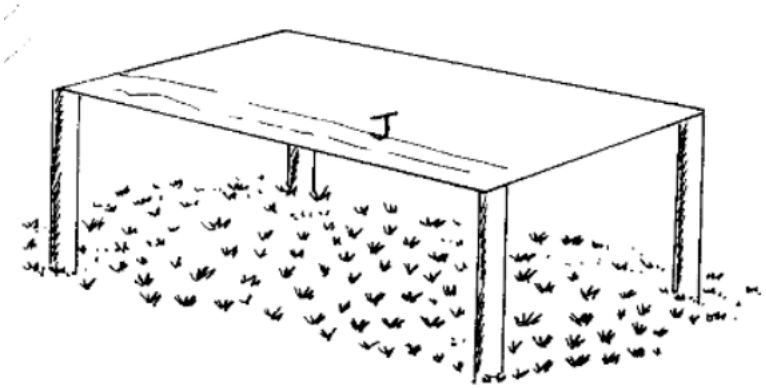
(c) State two precautions that must be observed when plucking tea leaves (2mks)

13. (a) Outline two characteristics of annual weeds (1mk)

(b) Enumerate two effects of water hycinth in agriculture (2mks)

(c) Outline two limitations of legislative weed control method (1mk)

14. Below is a diagram of a nursery for raising the seedlings.



(a) State two advantages of having the part labeled J (2mks)

(b) State any 3 management practices that should be carried out on the nursery from the time seedlings emerge to the stage of transplanting (3mks)

15. (a) What is marginal rate of substitution (1mk)

(b) A farmer using 60kg of maize grain and 40kg of wheat decides to change to 50kg of maize grain and 47kg of wheat to prepare a ration, calculate the marginal rate of substitution (3mks)

QUESTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS

16. (a) Discuss marketing functions (10mks)

(b) Discuss problems of marketing agricultural produce (10mks)

17. Describe the production of tomatoes (Lycoperiscon esculentum) under the following subheadings.

(a) Ecological requirements (4mks)

(b) Nursery establishment (4mks)

(c) Transplanting (4mks)

(d) Seed bed preparation (4mks)

e) Field management practices (4mks)

18. (a) Explain 10 uses of farm records (10mks)

(b) KATO farm intends to increase its dairy herd from 2 to 4 cows. Considering the following specifications, determine whether the change is profitable.

- The acreage under maize is reduced by one hectare to cater for the extra two cows. Each cow requires the purchases of a replacement heifer each year at Kshs. 3500, while the cull price per cow is Ksh. 2500.
- Milk yield for each cow is 3500kg per cow per year, price of milk is Ksh. 25 per kg.
- Each cow gives birth to a calf worth Ksh. 5000 every year.
- Veterinary service charge per cow is Ksh. 600, while the cost of concentrates and minerals per cow is Ksh. 1500 per year.
- The seedbed preparation cost for maize production is Ksh. 2400 per hectare. Planting and fertilizer cost of maize are Ksh. 2400 per hectare and 2600 per hectare respectively.
- Pest control cost for stalk borer is Ksh. 300 per hectare, weeding cost is Ksh. 2600 per hectare,

Gunny bags for packing maize are purchased at Ksh. 40 each. Maize shelling is Ksh. 40 per bag. Maize yield is 60 bags per hectare. The maize price is Ksh. 1500 per bag (10mks)

SAMPLE PAPER 2

SECTION A (30MARKS)

ANSWER ALL QUESTIONS

1. Define organic farming 1mk

2. State why agriculture is regarded as a science. 3mks

3. Give two effects of HIV/Aids on agricultural production and development. 2mks

4. a) State three farming practices that help in reducing the effects of water shortage in crop production 3mks

b) Distinguish between the two micro-catchments for water conservation.

Negarims 1mk

Semi-circular bunds 1mk

5. Give the disadvantages of organic manure used in agricultural farms. 2mks

6. Give two methods that can be used in carrying out topping in pasture field. 2mks

7. In what ways can wind positively influence arable farming. 2mks

8. a) Give the importance of rogueing as used in crop management. 1mk

b) State three ways used in banana stool management. 3mks

9. a) Apart from the identity of owner, title number and size of land, name other essentials contained on a land title deed.

3mks

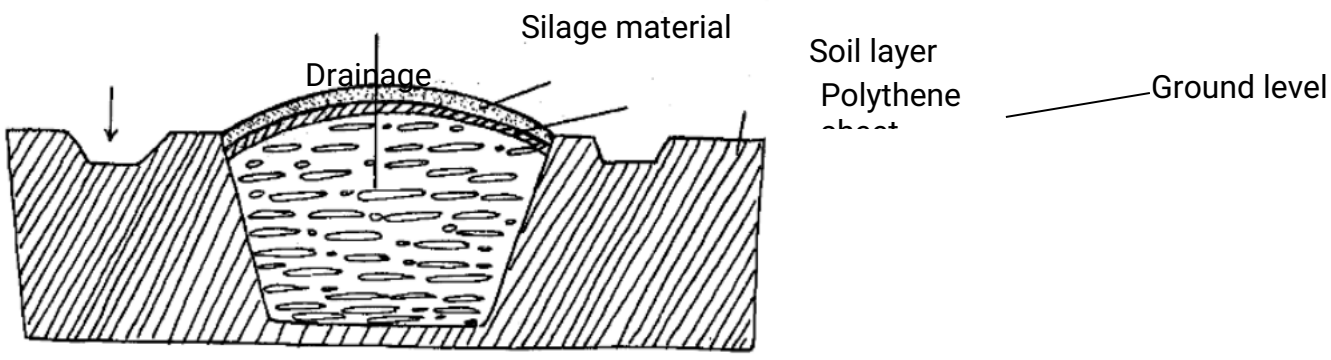
b) Give the importance of a land title deed. 3mks

c) State the reasons for root pruning in agro forestry seedlings. 3mks

SECTION B (20 MARKS)

ANSWER ALL QUESTIONS

10. Study the diagram on silage making shown below and answer the questions that follow.



a) Identify the silage preparation method shown above. 1mk

b) Give the precautions taken when ensiling to ensure high quality silage. 2mks

c) State two advantages of this method of forage conservation over other methods. 2mks

11. a) Give the ionic form in which nitrogen is absorbed by plants. 1mk

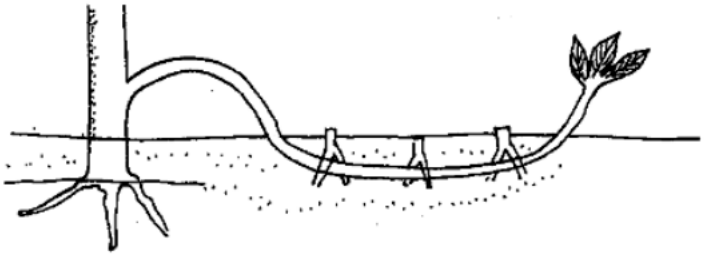
b) State two roles of potassium in crop production 2mks

c) Mention two properties of nitrogenous fertilizers. 2mks

12. a) Identify two methods of plucking table formation in tea establishment 2mks

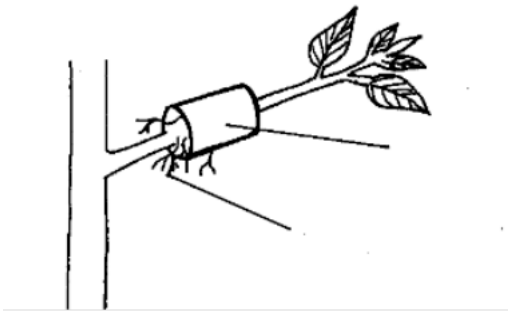
b) Identify the crop propagation methods illustrated below

(i)



……

(ii)



……..

c) State two factors that would promote root formation in the propagation method in a (ii) above 2mks

13. a) State four reasons why land is prepared before planting 2mks

b) Give one reason in each case why the following tertiary operations are important. 3mks

(i) Ridging

ii) Rolling

iii) Levelling

SECTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS

14. a) Describe field production of cabbages under the following subheadings:

i) Nursery bed management practices (6mks)

ii) Transplanting (5mks)

iii) Harvesting (3mks)

b) Explain factors that should be considered before embarking on the control of pests. (6mks)

15. a) Describe the physical (structural) methods of soil and water conservation (10mks)

b) Explain the negative impacts of soil erosion in agriculture (5mks)

c) State ways by which soil loses fertility. (5mks)

16. A farmer in Ekerenyo division wishes to change from arable farming to dairy goat production. In arable farming he has been spending kshs.400 on weeding maize and ksh 200 on weeding cabbages. He spends ksh.500 and ksh 300 on harvesting maize and cabbages respectively. He buys the following inputs; DAP fertilizer at Ksh.1000, cabbage seeds for ksh 400, maize seeds for ksh 600. Pesticides cost ksh800. He also spends ksh. 300 on shelling of maize.

The change in enterprise will have the following implications; He will buy 5 dairy goats at ksh.2,000 each; pay milk man ksh.3,000; control diseases at a cost of ksh.1500. Fencing of the farm will be done at a cost of ksh.1,500.

The revenue he gets when growing maize is ksh.10,000 and cabbages is ksh.4,000. In dairy goat production, he will get ksh 20,000 from sale of milk and ksh 1000 from sale of manure

a) Prepare a partial budget and advise the farmer whether the change is worthwhile or not. (12mks)

b) Explain factors that determine the choice of a farming enterprise (system) (8mks)

SAMPLE PAPER 3

SECTION A (30 Marks)

Answer all the questions in this section in the spaces provided

1 (a). Name two systems of farming practiced in Kenya { Imk}

b). State two roles of Agriculture in the economy of Kenya {2mks}

c) Name two areas of scientific study which show that Agriculture is a science {Imk}

2. State three, disadvantages of mixed farming. {3mks}

3 (a) Weeds lower the quality of farm produce. Give two examples to support this.2mks}

(b). State two reasons why chemical weed control is uncommon in small scale farms. { 2 mks}

4 (a) State two qualities of soil that rice requires . {2mks}

b). State two reasons why rice should be spaced very closely. {2mks}

5 (a) Define inventory records. {Imk}

b). State four pieces of information that is contained in health records. {2mks}

6 (a) State the meaning of the following terms used in agricultural economics. {2mks}

(i) Opportunity cost.

(ii) Scarcity

(b) Name four factors of production in agriculture. {2mks}

7 (a) State four ways by which organic matter helps to improve sandy soil for crop production.

{4mks}

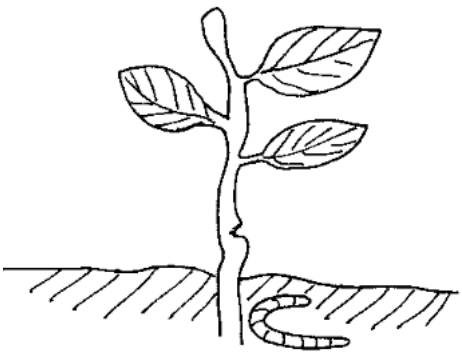
(b) State any two symptoms that can be observed in cereal crops that are deficient in nitrogen. {2mks}

c). State two functions of terraces in soil and water conservation. {2mks}

SECTION B (20 MARKS)

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

8. The diagram below shows a kale seedling attacked by a pest.

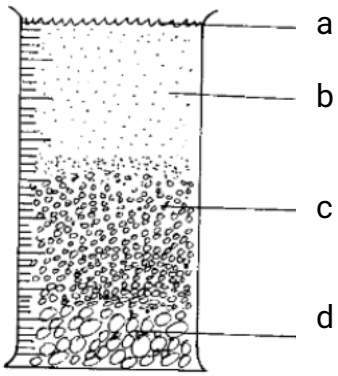


(i). Identify the pest. (½ mk)

(ii). What damage does the pest cause to the crop. (½ mk)

(iii). State two methods of controlling the pest. (2mks)

9 (a) Form two student put some soil sample in a measuring cylinder, added some water and sodium carbonate and then covered the cylinder with the hand and shook the cylinder for about two minutes. He left the cylinder on the bench for one hour. The result was as shown below.



(i). Name the layers marked a,b,c, and d. (2mks

(ii). What was the function of sodium carbonate in this experiment? {lmk}

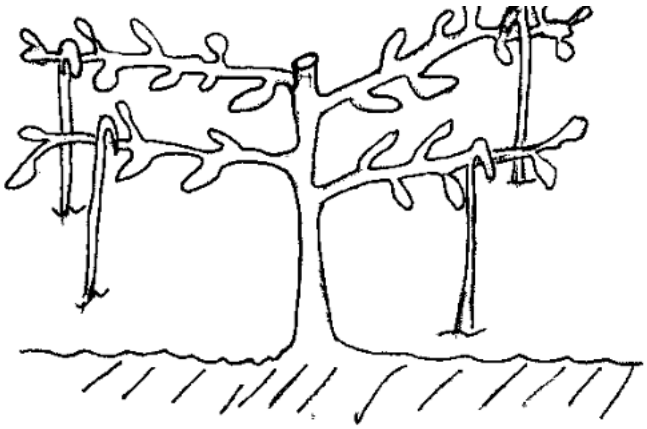
(iii). What was the aim of this experiment ? {lmk}

10 (a) A farmer was advised to apply compound fertilizer 20 - 20 - 10 on an orchard measuring 20m x 10m at the rate of 80Kg/ha. Calculate the amount of fertilizer the farmer would require for the orchard. {2 mks}

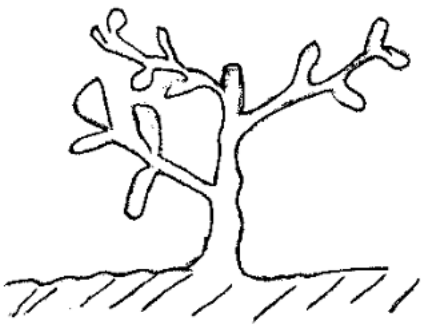
(b) A small scale farmer has 2 hectares of land of beans . He was interested to know the amount of fertilizer needed for his shamba. He was advised to apply 40Kg N per ha. and 60Kg P_2O_5 per ha. in order to get high crop yields. The fertilizers available in the shop are SSP (20% P_2O_5) and S/A20% N) calculate the amount of each fertilizer the farmer will buy for his shamba.

{4mks}

11 (a) Given below are illustrations of two methods of frame formation in tea labeled x and Y.



X



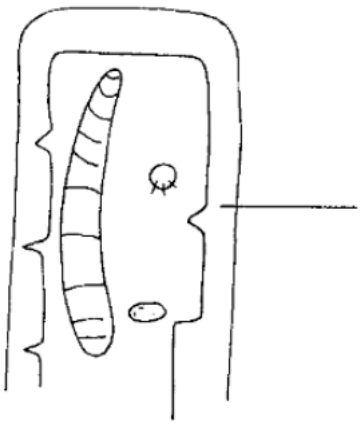
Y

(i). Identify the two methods of frame formation above

(ii). Why is it necessary to prune young tea plants as illustrated above? {Imk}

(iii). Explain briefly how plucking table is formed . (2mks)

b). Study the diagram shown below and answer the questions that follow.



Stem part

(i). Identify the pest. { ½ mk}

(ii). State one method that can be used to control the. above pest. { 1mk}

(ii). Give one example of a plant attacked by the above pest. {½mk}

SECTION C. 40MKS

12. Describe field production of tomatoes under the following headings.

(a). Ecological requirements {3mks}

(b) Land preparation {3mks}

(c) Transplanting { 4mks}

(d) Weed control { 3rnks}

(e) Harvesting {5mks}

(f) Disease control {4rnks}

13 (a) What is a balance sheet? { Imk}

Prepare a balance sheet for Mr. Tum who is a farmer and wishes to borrow a

loan from the bank to develop his farm. {14 mks}

Mr. Tum obtained a bank overdraft, of Kshs. 15,000/= Previously he had a loan of Kshs. 50,000/= which enabled him to construct a modern milking shed and also did some permanent improvement in the farm. The inventory of the farm as at 3 1 / 1 2/05 is as shown

Value of land	Kshs. 40,000/ =
Machinery and Equipment	Kshs. 35,000/ =
Buildings	Kshs. 45,000/ =
Cattle	Kshs 20,000/ =
Sheep	Kshs. 5,000/ =
Coffee	Kshs. 45,000/ =
Debt available from Co-operative Society	KShs.2,000/ =
Cash in bank	Kshs. 8,000/ =

(c). If Mr. Tum applied for a loan of Kshs. 100,000/= from the bank would he qualify for the loan? Give a reason for your answer. {2mks}

d). Define the cost of production in agricultural production. { 1mk}

e). State two uses of production costs in agricultural production. { 2mks}

14 (a) .Describe five ways in which soil fertility may be lost. { 10mks}

(b). Explain the measures taken to maintain soil fertility in a coffee field in order to obtain optimum yield. (10 mks}

SAMPLE PAPER 4

SECTION A (30 MARKS)

Answer All Questions in this section

1. Mention Two ways in which losses may be incurred during hay making. 2mks

2. Give Two precautions taken to ensure good crop establishment during planting. 2mks

3. Give Two reasons why Agriculture is important for the development of industries. 2mks

4. Give Two economic importance of crop disease to a farmer. 2mks

5. State Two reasons for cultivation during dry period. 2mks

6. a) Define elasticity of demand. 1mk

b) Mention any Two factors influencing demand of cabbages. 2mks

c) Give Two problems a farmer is likely to face when marketing cabbages 2mks

7. Name two ways in which organic farming is carried out. 2mks

8. a) What is Agro forestry. 1mk

b) State Two ways in which Agro forestry is important. 2mks

c) Name Two common forms of Agro forestry 2mks

9. State two surface irrigation methods 1mk

10. State Two symptoms of sulphur deficiency in plants. 1mk

11. State Two advantages of tissue culture in crop propagation. 2mks

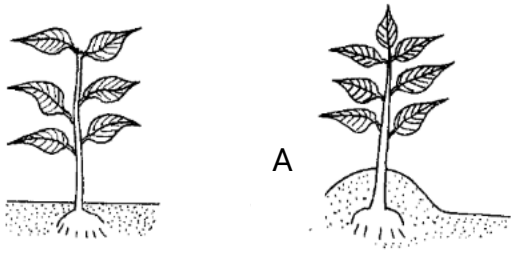
12. Name the classes of weeds according to plant morphology. 2mks

13. Give Two reasons for processing agricultural produce. 2mks

SECTION B (20 MARKS)

Answer all Question in this section

14. The diagrams below show a practice carried out on various crops on the farm. Study them carefully and answer the questions that follow.



A B

a) Identify the farm practice represented by B. 1mk

b) State the importance of the above practice in the following crops. 4mks

i) Maize

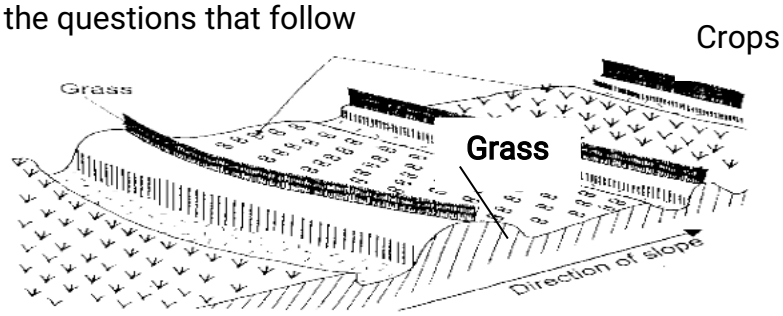
ii) Irish Potatoes

iii) Tobacco

iv) Groundnuts

c) At what stage of growth should the above practice be carried out in maize. 1mk

15. Study a section of the diagram of soil conservation practice shown below then answer the questions that follow



a) Identify the method of soil conservation illustrated on the diagram above. 1mk

b) Explain Two ways in which the above method helps to conserve the soil and water. 2mks

16. The information below is on the financial and Asset valuation of school Farm at the end of the year 2002

Debts Payable	80,000/=
Dairy cattle	55,000/=
Maize in store	19,000/=
Buildings	125,000/=
Beans in store	4,000/=
Calves	5,000/=
Mature sheep	7,000/=
50 ha of land	260,000/=
Machinery	180,000/=
Cattle feed in store	4,000/=
Office Equipment	1,400/=
Tools in store	10,000/=
Bank Deposit	50,000/=
Debts receivable	11,000/=
KFA Loan	210,000/=
Bank Loan	100,000/=
Wages	41,200/=

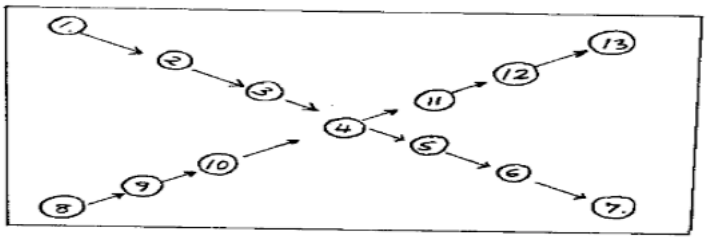
Electricity/Telephone/Rent Bills 100,500/=

a) Draw up a balance sheet for the farm as at 31st Dec. 2002 using the above information.

5mks

b) Determine the solvency of the farm, giving reasons. 1mk

17. Below is a diagram on a method of soil sampling. Study it and answer the questions that follow.



a) Identify the method shown. 1mk

b) State four steps to be followed when sampling soil. 4mks

SECTION C (40 MARKS)

Answer any TWO questions from this section.

18. Describe the production of tomatoes/Dry beans under the following sub-headings.

a) Ecological requirements

4mks

b) Planting / Transplanting

4mks

c) Pest control 4mks

d) Disease control 4mks

e) Harvesting & marketing 4mks

19. a) (i) Define the term land tenure 2mks

(ii) Give three benefits of a Title deed to a farmer.

3mks

iii) State five effects of land fragmentation in crop farming. 5mks

b) Briefly discuss the roles of any five marketing agencies and organizations.

10mks

20. a) Mention the various sources of water used in the farm. 6mks

b) Describe the process of water treatment for human consumption.

14mks

SAMPLE PAPER 5

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SECTION A (30 Marks)

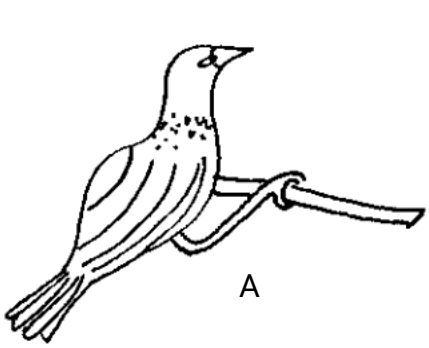
Answer all the questions in this section in the spaces provided

1. Name **four** main branches of Agriculture. 2mks
2. State **four** farming practices that maintain soil fertility. 2mkS
3. What is pollarding in crop production. 1mk
4. State four problems farmers encounter when sourcing for Agricultural credit. 2mks
5. Give one reason why phosphatic fertilizers benefit subsequent crop in Second and third year after application. 1mk
6. State two reasons why cassava should be grown as last crop in crop rotation programme. 2mks
7. State four importance of farm records. 2mks
8. Name two aspects of light that affect crop production. 1mk
9. (a) What is tissue culture? 1mk
   (b) State two importance of tissue culture in crop propagation. 2mks
10. Give one effect of low temperature on the quality of tea. 1mks
11. Give two examples of joint products in livestock production. 1mk
12. Give four factors that influence time of planting crops. 2mks
13. State four factors that affect the effectiveness and selectivity of herbicides. 2mks
14. State two disadvantages of tenancy system of land tenure. 1mk
15. Distinguish the following terms as used in pasture management. 2mks
    Intensity of defoliation
    Frequency of defoliation
16. Give one reason why saw dust should not be used as mulching material in the field. 1mk
17. Differentiate between financial statement and financial document. 2mks
18. Give four effects of HIV/AIDS to agricultural production. 2mks

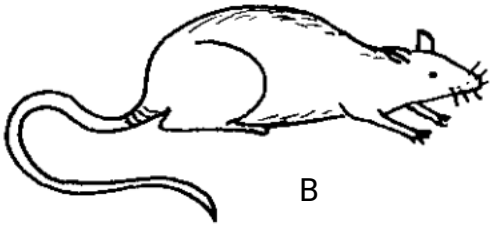
SECTION B (20 MARKS)

Answer ALL the questions in the space provided.

19.



A



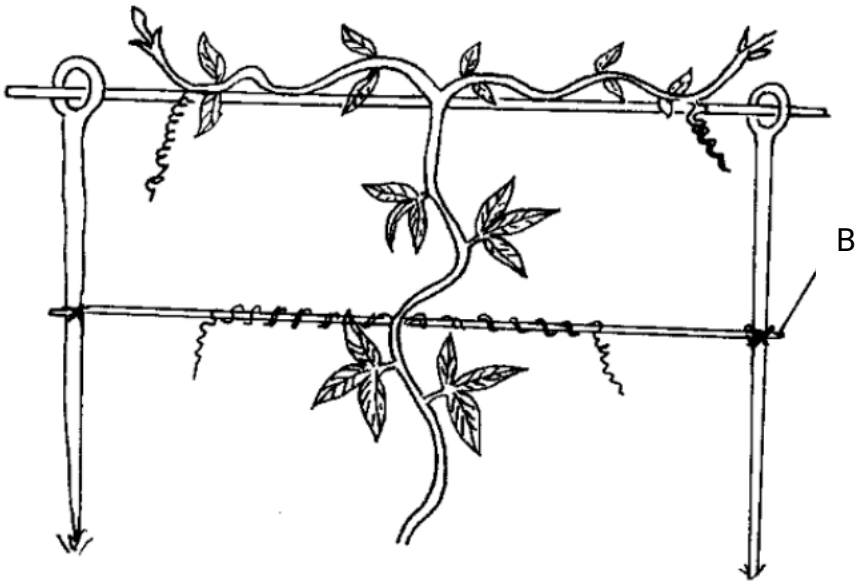
B

a) Identify the field pest shown by the illustration “A” and “B”. 1mk

b) State two effects of a pest expressed in illustration “A” above has on maize plant 2mks

c) State two physical methods of controlling the pest in illustration “B” above. 2mks

20. Study the diagram below and answer the questions that follow.



B

(a) Name the crop production practice illustrated above. 1mk

b) Name two materials that may be used as part B in the diagram 2mks

c) State two reasons why the practice is done in crops. 2mks

21. (a) What is water conveyance?. 1mks

(b) Name two types of pipes used in the farm. 2mks

(c) State two uses of water on the farm. 2mks

22. (a) What is agro-forestry? 1mks

(b) State two benefits of agro-forestry. 2mks

(c) Give two characteristics of trees used for agro-forestry. 2mks

SECTION C (40 MARKS)

Answer ANY TWO Questions in this section in the spaces provided in this booklet

23. Study the tables on demand and supply schedules of tomatoes in a town market.

Tomato supplied kg (in kg)	Price per (sh).
200	7.00
180	5.20
175	4.80
162	4.00
156	3.70
135	2..80
100	1.60
92	1.40
80	1.20
75	1.10

Tomatoes bought (In (kg)	Price per kg (sh).
75	8.00
82	6.70
96	5.50
114	4.10
130	3.20
150	2.40
166	1.80
180	1.30
186	1.10
200	0.80

a) On the same axis, draw the graphs of supply and demand of tomatoes in the market. 8mks

b) What is the equilibrium price? 1mk

c) What would be the price if 150kg of tomatoes were supplied. 1mk

d) If the price per kg was Kshs. 3.70, how many kilograms of tomatoes would be bought? 1mk

e) Calculate the elasticity of supply when price changed from Kshs. 7.00 to Kshs. 4.00 per kg of tomatoes. 3mks

f) Other than change in price, list other factors that will influence the supply of tomatoes in the market. 6mks.

24. Describe the production of tomatoes under the following sub- headings.

i) Ecological requirements. 4mks

ii) Nursery management practices. 6mks

iii) Pest and disease control. 6mks

iv) Harvesting and marketing. 4mks

25. (a) Describe the establishment of grass pasture from the time the land is ploughed using a mouldboard plough to the time the pasture is ready for grazing. 10mks

(b) What are the advantages of mixed grass legume pasture over a pure grass pasture?

SAMPLE PAPER 6

443/1

AGRICULTURE

SECTION A (30 Marks)

Answer all the questions in this section in the spaces provided

1. Give one reason why Agricultures is regarded as a science. 1mk
2. Give two reasons why ranching is important in the arid and semi arid areas of Kenya. 2mk
3. Give two importance of living organisms in soil formation. 1mk
4. Give two advantages of organic farming in relation to environmental conservation. 1mk
5. (a) Give two advantages of ridging in crop production. 1mk

(b) Give one reason in each case for carrying out the following operations in crop production? 2mks

i) Levelling

ii) Rolling

(c) State two farming practices that are carried out in minimum tillage.1mk

6. (a) Define the term pollution. 1mk

(b) Give two agricultural practices, which will lead to water pollution. 1mk

(c) List two methods used to prevent water pollution. 1mk

7. Give two importance of keeping health records. 1mk
8. (a) State two importance of organic matter in the soil. 1mk

(b) State two problems associated with the use of manures by small-scale farmers. 1mk

(c) Give two factors considered when siting compost manure on the farm.1mk

9. (a) State two factors to consider when choosing seed rate. 1mk

(b) Give two reasons for using certified seeds for planting. 2mks

(c) Given that maize is planted at a spacing of 75cm x 25cm. Calculate the plant population in a plot of land measuring ½ ha . (Show your working). 2mks

10. (a)List two factors that determine the number of times a farmer would harrow his land. 1mk

(b) Give one reason why it is not advisable to use excess organic manure in the growing of carrots. 1mk

(c) Calculate the number of 50kg SA fertilizer bags that would be applied in one hectare of

land that requires 60kg of Nitrogen per hectare. SA fertilizer contains 20% Nitrogen.

2mks

(Show your working)

11. (a) Define the following terminologies as used in Agriculture.

i) Seed inoculation 1mk

ii) Chitting. 1mk

iii) Tipping. 1mk

12. a) Define the term opportunity cost 1mks

b) Under what farming conditions is opportunity cost zero? 1mk

SECTION B (20 MARKS)

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

13.



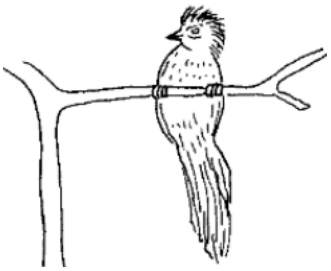


b) Identify the weeds illustrated in diagrams A and B 1mk

b) State one reason why the weed labeled A is difficult to control. 1mk

c) State two economic importance of the weed labeled B in Agriculture. 1mk

14. The diagram below shows a crop pest.

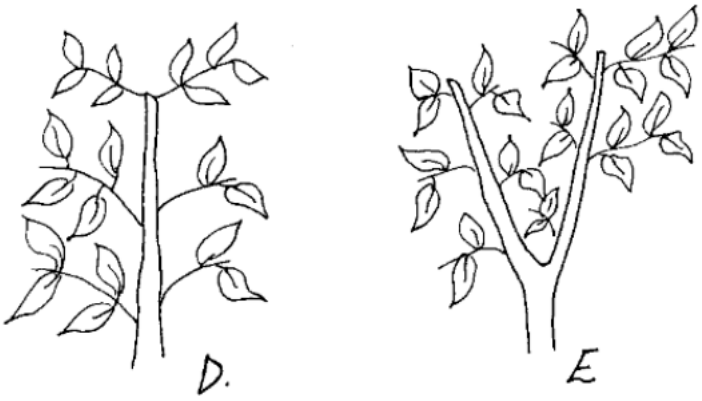


a) Identify the crop pest ½ mk

b) State two damages the pest would cause to crops. 1mk

c) State one cultural control measure for the pest labelled C 1mk

15. The diagrams below show pruned coffee.

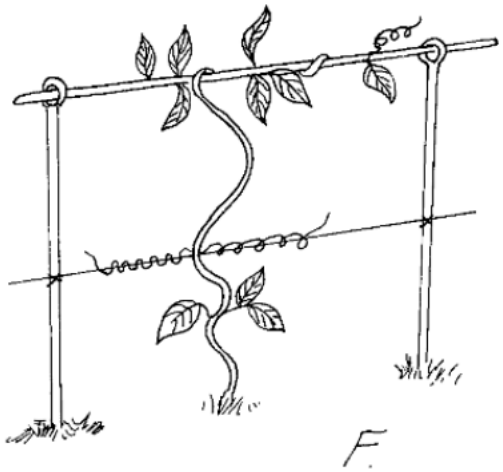


(a) Name the systems of pruning illustrated in D and E. 1mk

(b) Outline how the pruning system in the diagram E is carried out.2mks

(c) Give two advantages of the pruning system illustrated in diagram D over the pruning system illustrated in diagram E. 2mks

16.



(a) The diagram F, above illustrates a method of training in crops.

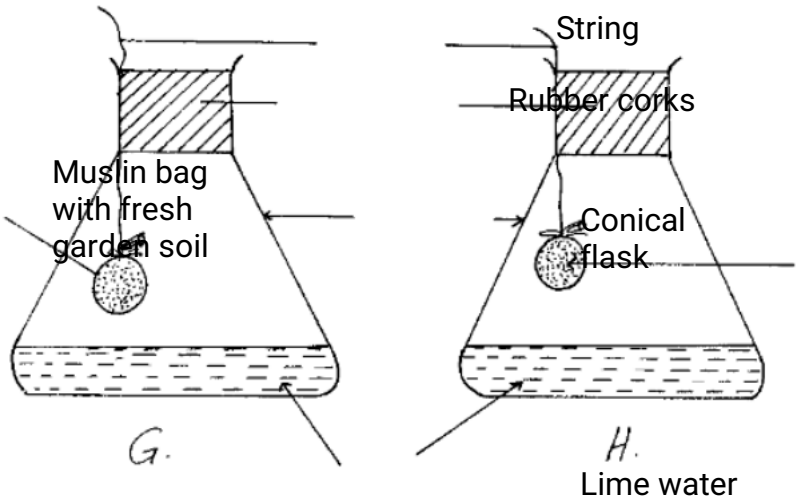
i) Identify the method shown in F above. ½ mk

ii) Name two other methods used in training in crop production. 1mk

iii) State two advantages of training in crop production. 1mk

iv) List two crops that require training. 1mk

17. Study the diagrams labelled G and H



(a) Give one use of setting up such an experiment. 1mk

(b) Give two reasons why the garden soil in experiment H is heated. 2mks

(c)Briefly explain what happens to the lime water in both experiments G and H

Experiment G 1mk

Experiment H 1mk

d) Give one reason for your answer in Question 17(c) above. 1mk

SECTION C (40 MARKS)

Answer ANY TWO Questions in this section in the spaces provided in this booklet

18. Describe the field production of either maize, sorghum or finger millet under the following sub-headings.

a) Seedbed preparation 4mks

b) Planting. 6mks

c) Field management practices. 7mks

d) Harvesting. 3mks

19. The table gives information on the supply of potatoes in a local market.

Price /bag in Kshs. 1000	Quantity Demanded (in bags)	Quantity supplied (in bags)

1	20	2
2	15	8
3	12	12
4	10	16
5	9	19

i) using a suitable scale and on the same axis, draw and label supply and demand curves using the data given. 8mks

ii) From the curves drawn, what is the price per bag when 15 bags of potatoes were supplied? 1mk

iii) How many bags of potatoes were supplied at Equilibrium price. 1mk

iv) What factors would affect the supply of potatoes in a local market? 8mks

v) Differentiate between a perfect and imperfect market as used in Agricultural economics. 2mks

20. a) What is Agro-forestry? 2mks

c) Name the main forms of Agro-forestry land use systems. 3mks

d) Outline the importance of Agro-forestry in agriculture. 6mks

e) Give the characteristic of ideal Agro-forestry tree species. 9mk

SAMPLE PAPER 7

443/ 1

SECTION A (30 Marks)

Answer all the questions in this section in the spaces provided

1. Give four functions of phosphorous to crops.

2mks

2. What is a companion crop. 1mk

3. Give four factors a farmer should consider when designing a crop rotation programme.

4mks

4. Distinguish between land settlement and land resettlement.

2mks

5. Name two types of credit given to farmers in Kenya. 2mks

6. Give three importance of early sowing of annual crops during planting season.

3mks

7. Name two disease of bulrush millet.

2mks

8. Give two financial statements a farmer may prepare on a well organized farm.

2mks

9. Give two reasons why it is advisable to top dress maize with nitrogenous fertilizer at knee high. 2mks

10. Give two advantages of planting maize with correct plant population.

2mks

11. Give three characteristics of a good rootstock for grafting.

3mks

12. State three effects of HIV/AIDS to agriculture production in Kenya. 3mks

13. State two ways in which soil structure influence crop production.

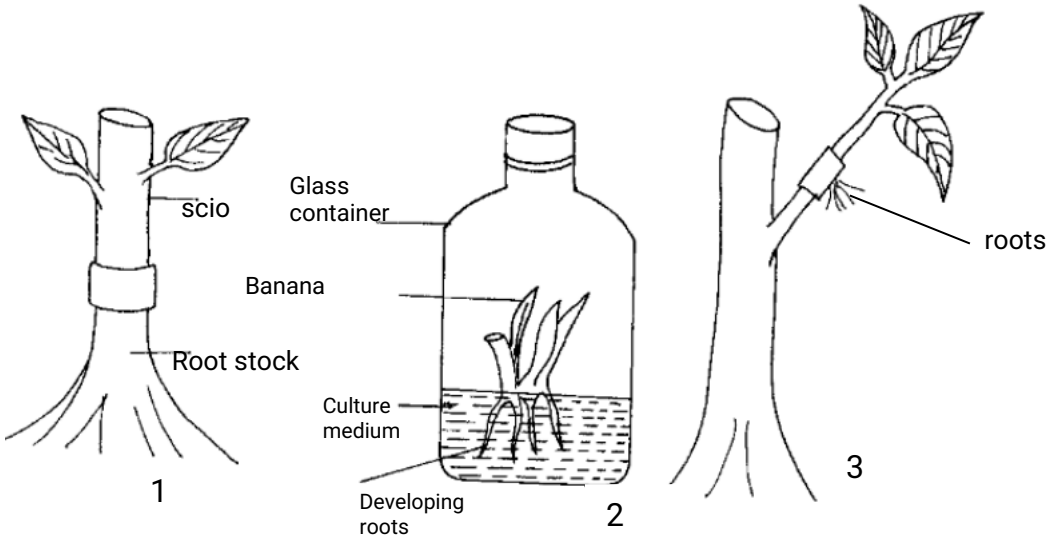
2mks

SECTION B (20 MARKS)

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

14. Study the methods of crop propagation illustrated below and answer the questions that follow

14. Study the methods of crop propagation illustrated below and answer the questions that follow



a) Identify the methods of crop propagation illustrated above. 1 ½ mks

b) Give one condition under which method (1) above is carried out. ½ mk

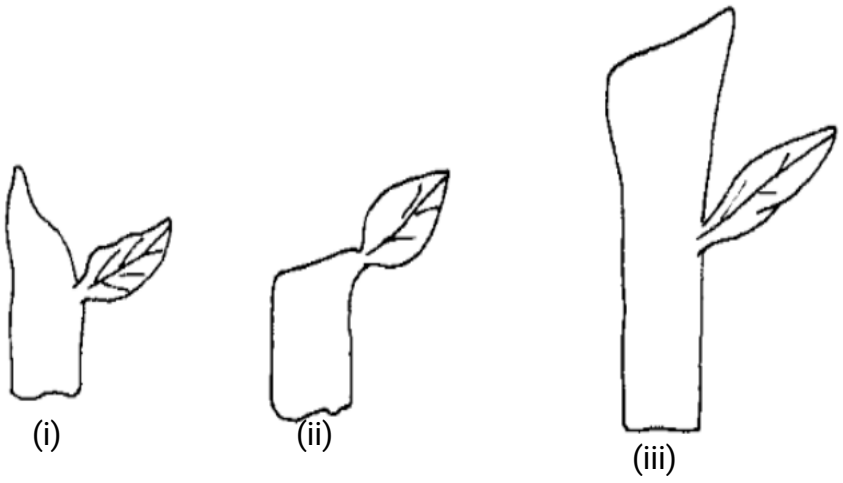
c) State two disadvantages of using stem cuttings for planting. 1mk

15. a) Apart from damage by birds, name two other serious pests which can attack sorghum crop while still in the field. 2mks

b) Give two methods used in controlling birds in a field planted with sorghum. 2mks

c) Give three reasons why sorghum for silage making should be harvested just before flowering stage. 3mks

16. Agriculture students made the following pruning cuts on citrus in their orchard using secateurs.



(a) Give one reason in each case why the above methods of cutting were incorrect.3mks

b) State three different ways by which pegging can be carried out in tea.

3mks

17. The table below shows output of maize in response to increase in D.A.P fertilizers on one hectare of land.

Fixed input land (in ha)	Variable input D.A.P in 30kg-bag	Total product maize yield in 90-kg bag	Average product (AP) maize in 90kg bag	Marginal product (M.P) in 90kg bag
1	0	2	-	-
1	1	5	-	-
1	2	14	-	-
1	3	21	-	-
1	4	26	-	-

a) Fill in the table for average product (A.P) and marginal products (M.P)

4mks

SECTION C (40 MARKS)

Answer ANY TWO Questions in this section in the foolscaps attached.

18. Describe the production of maize for grain from land preparation to harvesting.

20mks

19. a) Explain two reasons for treating water in the farm. 2mks

b) Name four types of water pumps which can be used on a farm. 4mks

c) List two features of plastic pipes a farmer should consider before buying the pipes 2mks

d) Describe the processes involved in water treatment using a chemical treatment system before pumping it to the farm. 12mks

20. a) Give one reason in each case why it is difficult to control the following weeds.

i) Oxalis

ii) Nut grass

iii) Couch grass 3mks

b) State <u>two main</u> factors which contributes to competitive ability of weeds. 2mks

c) State five safety measures that a a farmer must consider to prevent danger to other people and environment when using herbicides.

5mks

d) Describe any five cultural methods of controlling weeds. 10mks

SAMPLE PAPER 8

443/1

SECTION A (30 MARKS)

Answer ALL the questions in this section.

1. **State four** effects of high temperature on crop production. (2mks)
2. **Give two** ways of reducing soil acidity. (1mk)
3. **Differentiate** between Extensive and Intensive farming systems. (1mk)
4. **State two** characteristics of a Mother plant where stem cuttings should be obtained (1mk)
5. **What** is lease hold land tenure system (1mk)
6. **State three** reasons why it is necessary to treat water before use. (1½mks)
7. **Define** the term Gross Domestic Product. (1mk)
8. **State two** types of Labour records. (1mk)
9. **Name four** ways in which farmers may maintain soil fertility. (2mks)
10. **Differentiate** between a weir and a dam. (1mk)
11. **List four** effects of weeds on pastures. (2mks)
12. **State three** ways of improving Labour productivity. (1½mks)
13. **State four** reasons which necessitate pruning of tomatoes. (2mks)
14. **Name two** methods of budding. (1mk)
15. **What** do the figures 5 and 3 represent in the maize variety hybrid 513? (1mk)

    5:

    3:
16. A cow weighs 350kg. she requires 3kg of Dry matter for every 100kg 0f body weight Per day. **Calculate** the amount of Dry matter that she requires for a period of 30 days.(Show your working) (1½mks)
17. **State two** advantages of tissue culture in crop production. (1mk)
18. (a) **What** is the causal organism of anthracnose disease of beans? (½ mk)

    (b) **State three** control measures of the disease. (1½mks)
19. **What** is opportunity cost? (1mk)
20. (a) **List three** factors a farmer should consider in selecting the correct implements for primary cultivation. (1½mks)

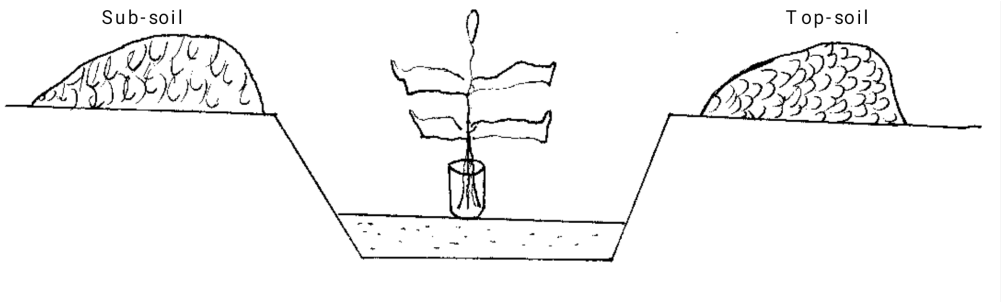
    (b) **Name two** types of records a coffee farmer should keep. (1mk)

    (c) **Give four** farming practices that helps to reduce water stress in crops. (2mks)

SECTION B (20MARKS)

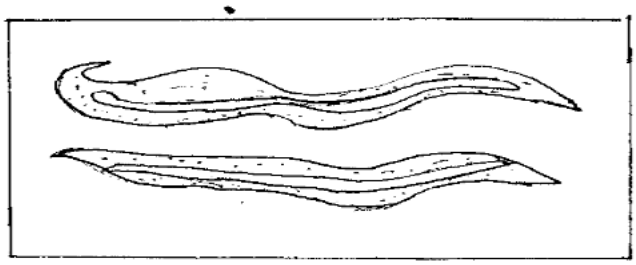
Answer ALL questions on this section in the spaces provided.

21. The diagram below represents an activity during the transplanting of a tea seedling.



Briefly explain step by step how the above seedling can be transplanted in the hole that has been dug in the main seedbed. (5mks)

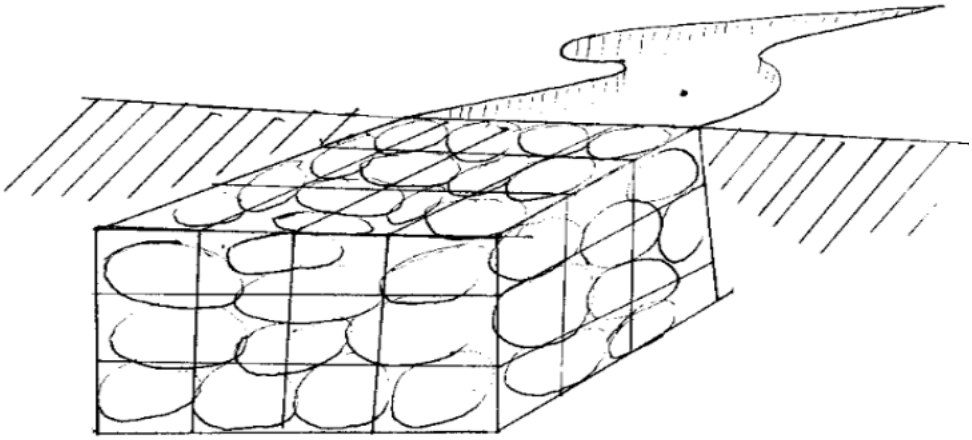
22. (a) **Identify** the crop pest below. (1mk)



(b)**State two** damages caused by the above pest on crops. (2mks)

(c) **Give two** classifications of pesticides based on target pest. (2mks)

23. **Study** the diagram below and answer the following questions.



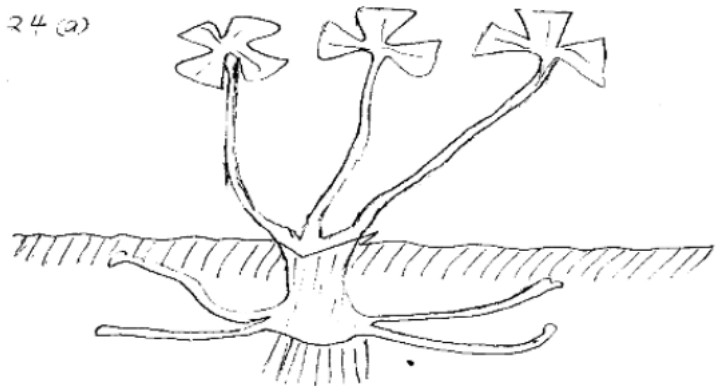
Identify the above method of soil and water conservation. (1mk)

a) **List three** materials used in construction of the above structure.

(3mks)

b) **State two** factors that determine the size of the structure above.
(2mks)

24. (a) **Identify** the weed below.
(1mk)



(b) **Briefly explain** why it is difficult to eradicate the weed above in a crop field. (2mks)

(c) **What** are the **two** possible herbicides that can be used in the control of the above weed?
(1mk)

SECTION C

Answer any two questions from this section (40 mks)

25. **Discuss** production of cabbages under the following headings.

(a)Ecological requirements. (3mks)

(b) Planting (6mks)

(c) Pests and diseases control.
(5mks)

(d)Harvesting.
(6mks)

26. (a) **Discuss** the factors to consider when drawing a farm plan.
(14mks)

(b) **Explain** the ways in which factor inputs are combined by farmers to maximize profits.
(6mks)

27. (a) **Describe** the physical methods of controlling crops pests.
(8mks)

(b) **Explain** the aspects of rainfall which influence agriculture.
(6mks)

(c) **Describe** the preparation of compost manure using FOUR-HEAP method. 6mks

SAMPLE PAPER 9

SECTION A(30 MARKS)

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

1. **State two** reasons why a farmer should intercrop maize and beans.
   (2mks)
2. **State two** reasons for processing agricultural produce.
   (2mks)
3. **Name** any **three** methods which can be used to detect mineral nutrient deficiency in crops.
   (1½mks)
4. **State three** methods of training crops.
   (1½mks)
5. **State three** reasons why rough lemon is preferred as a root stock in the grafting of citrus.
   (1½mks)
6. **List two** advantages of proper soil aeration in crop growth.
   (1mk)
7. **State** any **two** conditions that lead to small scale farming.
   (1mk)
8. **State three** importance of parent material in the soil profile.
   (1½mks)
9. **State four** ways in which water pollution can be prevented or controlled.
   (2mks)
10. **State two** advantages of shifting cultivation
    (2mks)
11. **Give four** conditions under which shifting cultivation may be practicable.
    (2mks)
12. **Give four** factors that should be considered when choosing the type of farming system to be Practiced.

(2mks)

13. **Give two** ways in which agriculture contributes to the development of industries
    (2mks)
14. **Give four** apparatus which would be used to perform an experiment to determine the water holding capacity of a soil.
    (2mks)

15. **State two** benefits of a good soil structure to plants.
(2mks)

16. **Define** the term soil capping.
(1mk)

17. **State four** characteristics of sub – soil.
(2mks)

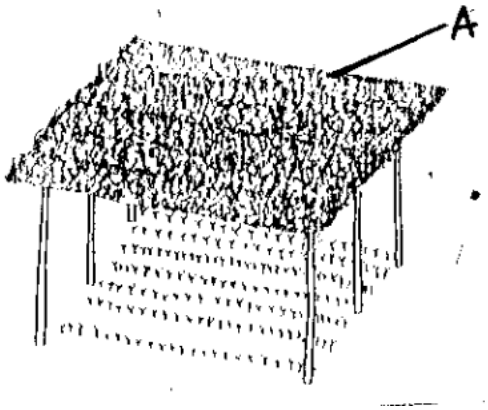
18. **Give two** ways a farmer would improve the structure of a waterlogged clay soil.
(1mk)

SECTION B (20 marks)

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

19. **Given** that onions are planted at a spacing of 30cm x 8cm calculate the plant population in a plot of land measuring 4m x 3m show your working.
(1½mks)

20. **The** diagram below shows a structure used in crop production.



(a) **Identify** the structure above.
(½mk)

(b) **Give** a reason for carrying out each of the following practices in the structure shown above

(i) Pricking out.
(1mk)

(ii) Hardening off.
(1mk)

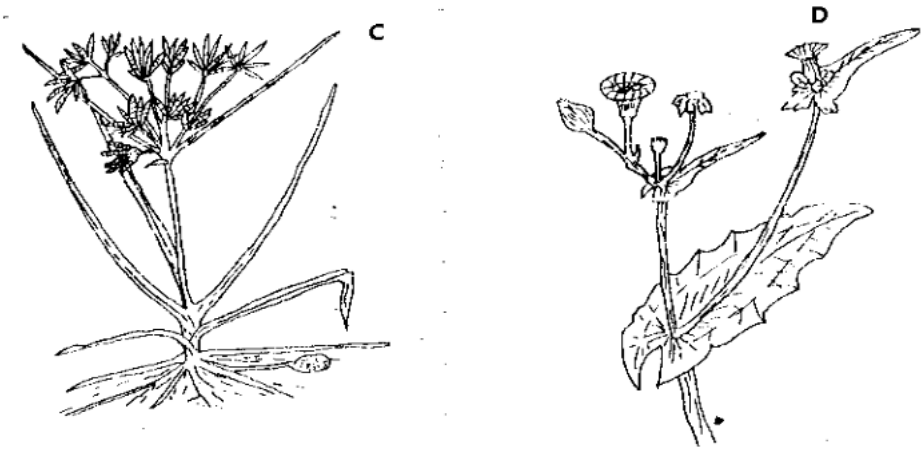
(c) **What four** methods are used in breaking dormancy in seeds meant for planting in the above structure.

(2mks)

(d) **State three** importance of the part labelled **A** in the above structure.

(1½mks)

21. **The** diagrams below shows, weeds.



(a) Identify the weeds **C** and **D**.

(1mk)

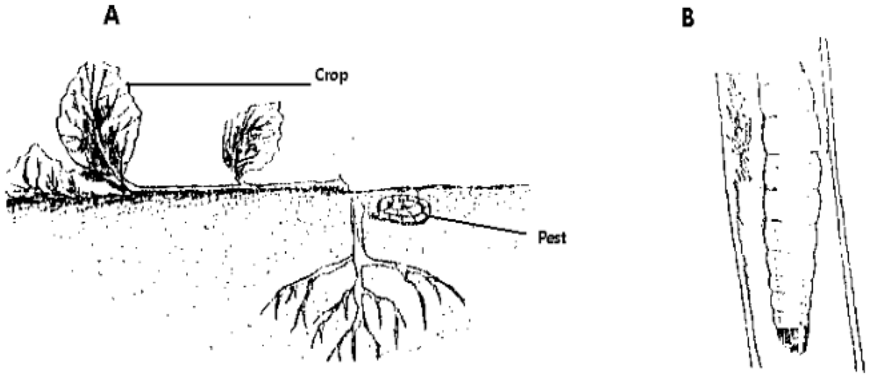
C

D

(b) **State** why it is difficult to control weed **C** (1mk)

(c) **State two** economic importance of weed **D** (1mk)

22. **The diagrams** below **A** and **B** illustrates some field pests study them carefully and answer the questions that follow.



(a) **Identify** pests **A** and **B**.

(1mk)

A

B

(b) **State two** damages caused by pest **B** to a crop of maize.
(1mk)

(c) **Give two** cultural practices carried out to control the pest in **A**.
(1mk)

23. (a) **State four** factors that should be considered when sitting a compost manure heap/ pit. (2mks)

(b) When preparing compost manure explain the importance of each of the following.

(i) Addition of ash.
(1mk)

(ii) Regular turning of the compost manure.
(1mk)

(c) **State one** reason why the use of organic manure is not recommended in carrot production.
(1mk)

24. (a)**Define** the term micro-catchment's as used in soil and water conservation.
(½mk)

(b) **Give two** types of micro- catchments.
(1mk)

SECTION C (40 marks)

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

25. **Describe** the establishment and management of a grass pasture from land preparation to the time the pasture is ready for grazing.
(20mks)

(i) Land preparation.
(6mks)

(ii) Planting
(7mks)

(iii) Field management practices.

(7mks)

26. (a) **What** is a production function?

(1mk)

(b) A farmer has a piece of land where he has been growing millet his farm records of millet Production for 9 years is as shown below only one input factor is considered i.e.fertiliser application.

Year	Fertilizer applied in (bags)	Total out put of millet in (bags)
1992	0	4
1993	2	10
1994	4	28
1995	6	42
1996	8	52
1997	10	60
1998	12	66
1999	14	66
2000	16	64

(i) Using the above data and an appropriate scale draw a graph to show the relationship between inputs and total output.

(5mks)

(ii) From the graph you have drawn how many bags of millet will the farmer obtain if he applied a 9 bags of fertilizer.

(½mk)

(iii) **Calculate** the farmers MP (marginal product) for the year 1994.

(1mk)

(iv) **Calculate** the average product for the year 1996.

(1mk)

(v) **What** rate of fertilizer application would the farmer choose if he wanted to grow millet in 2001 **Give a reason**. (1mk)

(c) On 1st June 2007 Bidii farm purchased on credit the following items from valley agro-vet shop.

15 bags of sow and weaner meal 100kg each shs 1350 per bag.

20 bags of finisher meal 70kg each shs 800 per bag

14 bag D.S.P fertilizer 50kg each shs 1800 per bag

20 bags of seed maize 10kg each shs 10, 50 per bag

2 milking churns 50 litres each shs 3,500 per can

4 pruning knives (medium sized) shs 400per knife

(i) **Prepare** the purchase order that bidii farm made tovalley agro-vet shop.
(7mks)

(ii) **Calculate** the value of each item purchased and the total value of the order.
(3½mks)

27. (a) **Discuss** the harvesting of cotton under the following sub – headings.

(i) Stage of harvesting .

(3mks)

(ii) Method and procedure of harvesting.

(4mks)

(iii) Precautions in harvesting.

(3mks)

(b) **Explain** how various field practices help to control crop diseases.
(10mks)

SAMPLE PAPER 10

SECTION A (30marks)

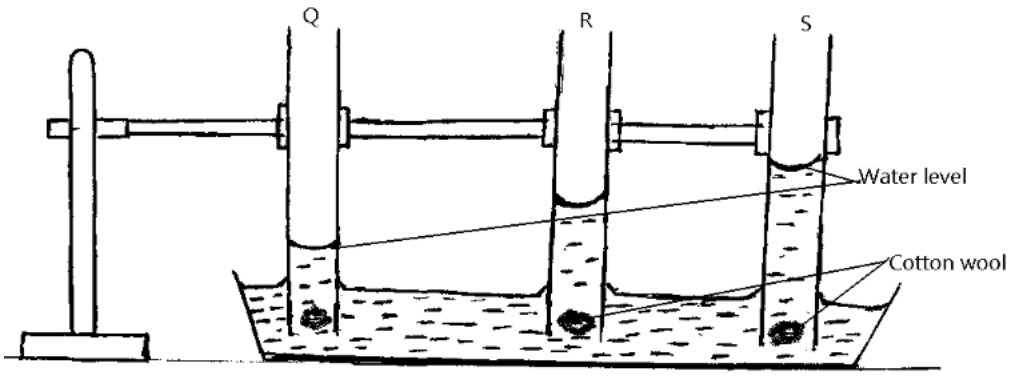
Answer ALL the questions in the section in the spaces provided.

1. **Give four** advantages of mixed farming. (2mks)
2. **Name two** agriculture organizations for the youth. (1mk)
3. **State four** objectives of land reforms in Kenya. (2mks)
4. **Give three** aspects of light that are important in growth of crops. (1½mks)
5. **State four** sources of agricultural credit. (2mks)
6. **Name six** types of erosion on the basis of the agent. (3mks)
7. **Define** the following terms. (1mk)
   (i) Local purchase order.
   (ii) Opportunity cost
8. **State three** deficiency symptoms of potassium in the growth of crops. (1½mks)
9. **State three** cultural practices that a farmer may use to control maize streak disease in maize. (1½mks)
10. **Give two** disadvantages of minimum tillage. (1mk)
11. **State five** benefits of agro forestry trees on terraces. (2½mks)
12. **Give four** types of records that can be kept by a crop farmer. (2mks)
    Give four factors that influence the quality of hay. (2mks)
13. **Mention three** importance of tissue culture in crop production. (1½mks)
14. **Give two** precautions that should be observed when harvesting cotton. (1mk)
15. **Give five** functions of a farm Manager. (2½mks)
16. **State three** factors influencing the effectiveness of pesticides. (1½mks)
17. **Give three** reasons for pruning tea. (1½mks)

SECTION B (20MARKS)

Answer all questions in this section in the spaces provided.

19. The diagram below shows an experiment set up using soil type QRS and observations made after 24 hours. **Study** the diagram below and answer the questions that follow.



(a) The experiment set up above is designed to study what? (1mk)

(b) **Name** the three soil types QRS. (3mks)

Q

R

S

(c) What are the characteristic texture of soil type R and S?

R (1mk)

S (1mk)

20. A farmer can combine dairy meal and home made ration in order to produce 50kg of milk from a lactating cow as shown in the table below.

Dairy meal (kgs)	Home –made ration (kg)	Marginal rate of substitutions
1	45	0
2	36	J
3	29	7
4	24	K
5	20	4
6	18	L
7	17	I
8	16	M

(a) Given the above information **calculate** the marginal rate of substitution and gives the values of **J, K, L,** and **M**.

J (½mk)

K (½mk)

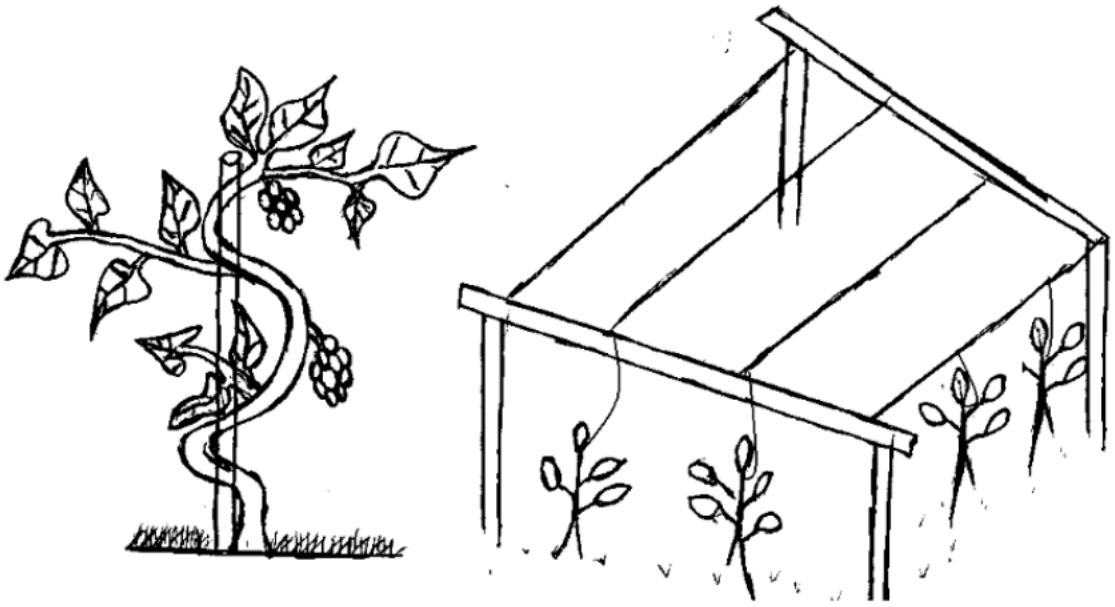
L (½mk)

M (½mk)

(b) Give n that the price of dairy meal is Ksh 10 per kilograms and that of home –made ration is Ksh. 4 per kilograms, **calculate** the least cost combination. (1mk)

(c) **State** the level of inputs that the farmer should use to produce 50kgs of milk from the cow. (1mk)

21. The diagram below represents some crop management practices. Study them and answer the questions that follow.



X Y

(a) **State** the general practice represented by the two illustrations. (1mk)

(b) **Identify** the methods represented by **X** and **Y**. (2mks)

X

Y

(c) **Give two** reasons for carrying out the process represented by **X**. (2mks)

22. **Study** the diagram below and answer the questions that follow.



(a) **Identify** the pest H. (1mk)

(b) At what stage of development is this pest destructive to crop. (1mk)

(c) **State one** symptom of attack of this pest. (1mk)

(d) **Give two** methods that can be used to control the above pest. (2mks)

SECTION C (40 MARKS)

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

25

23. **Discuss** the management practices in the production of maize for grains from planting to harvesting. (20mks)

24. (a) **What** is a profit and loss account. (1mk)

Use the information below to prepare a profit and loss account for Mugunda's enterprise for the year ended 31st December 2006 the farm manager bought the following items at the price indicated. (15mks)

Item	**Kshs.**
Maize seeds	10, 0 00.00
DAP fertilizer	25, 000.00
Tractor disc plough	50,000.00
Diesel fuel	12,000.00
Dairy meal	20,000.00
Milk can	2,500.00
Knapsack sprayer	6,500.00
Vet drugs	5000.00
Herbicides	18,000.00

During the year the farm manager sold the follow items.

Item	**Kshs.**
Maize to NCPB	210,000
Milk sales	500,000
Weaners	35,000

The following information is also indicated in the farm managers' book of accounts.

Item	ksh.
Opening valuation	300,000.00
Closing valuation	600,000.00
Debts receivable for	
Tractor service fees	28,000.00
Depreciation on machinery	7,500.00

(b) Did the farm make a profit or loss? (1mk)

(c) How much profit /loss was made by the farm? (1mk)

(d) **Calculate** the percentage profit or loss made by the farm. (2mks)

25 (a) **Explain** the factors considered in spacing of crops in the field. (12mks)

(b) **Briefly explain** the practices carried out on seeds/seedlings to prepare them for planting. (4mks)

(c) **Describe** practices that a farmer should carry out to ensure uniform germination of seeds. (4mks)

END

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