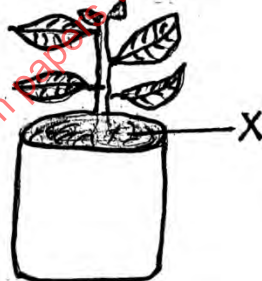


CEKENA
AGRICULTURE
443/1
FORM IV
SECTION A

1. Define the following terms as used in Agricultural production.
 - a) Pomoculture (½ mks)
 - b) Floriculture (½ mks)
 - c) Olericulture (½ mks)
2. Give four ways of controlling weeds in a field of maize. (2mks)
3. Outline two ways used by farmers to harden-off seedlings in the nursery. (1mk)
4. Give four characteristics of shifting cultivation. (2mks)
5. a) What is organic farming. (1mk)
b) State four reasons why farmers are encouraged to practice organic farming. (2mks)
6. State four factors that can cause failure in pasture establishment. (2mks)
7. State two characteristics of a good rootstock for grafting. (1mk)
8. a) Give four methods of harvesting water on a farm. (2mks)
b) State two uses of check dams in soil and water conservation (1mk)
c) State two roles of flood water in a rice field. (1mk)
9. Give four reasons why the use of fire is discouraged in land clearing. (2mks)
10. State five uses of farm records. (2 ½ mks)
11. a) Give three sources of phosphorus to plants. (1 ½ mks)
b) Name two methods which can be used to detect mineral nutrient deficiency in crops. (1mk)
12. a) Give four factors that determine the seed rate while planting maize. (2mks)
b) Give four reasons for practicing minimum tillage. (2mks)
13. State five factors that are considered when classifying crop pests. (2 ½ mks)

SECTION B (20 MARKS)

14. Study the diagram shown below and answer the questions that follow.



- i) Identify the material marked X (1mk)
- ii) State two advantages of using polythene sleeves instead of raising tree seedlings directly on the ground. (2mks)
- iii) Outline procedure of transplanting tree seedlings from polythene sleeves. (3mks)

15. The diagram below shows a maize cob which is attacked by a certain disease. Study it and answer the questions that follow.



- a) Identify the disease. (1mk)
 - b) Name the causal organism of the disease. (1mk)
 - c) State two cultural methods of controlling the disease. (2mks)
16. The diagram below shows a method of bringing tea into bearing. Study it carefully and use it to answer the questions that follow.



- a) Identify the method. (1mk)
 - b) Why is it necessary to prune a young tea plant as shown in the diagram above? (2mks)
 - c) Outline the procedure followed when using the pruning method shown. (3mks)
17. A farmer is to apply a compound fertilizer 20:30:10 on a vegetables. The vegetable plot is measuring 5m long by 4m wide at the rate of 200kg per hectare.
- i) Calculate the amount of fertilizer the farmer requires for the plot (show your working) (2mks)
 - ii) What does the figure 30 and 10 in the fertilizer stand for? (2mks)

SECTION C (Answer any two questions)

18. a) State and explain cultural measures used in the control of weeds in a field of a named cereal crop (10mks)
- b) Explain six factors that can influence a well designed crop rotational programme (6mks)
 - c) Give four reasons why timely ploughing of the seedbed is important in crop production. (4mks)
19. a) Describe the production of napier grass under the following subheadings
- i) Land preparation (4mks)
 - ii) Planting (3mks)
 - iii) Utilization (3mks)
- b) Explain farming practices that may lead to soil erosion. (5mks)
 - c) Outline five pieces of information in a land title deed. (5mks)
20. a) Describe how biotic factors affect agricultural production. (12mks)
- b) Describe how edaphic factors influence crop production. (8mks)

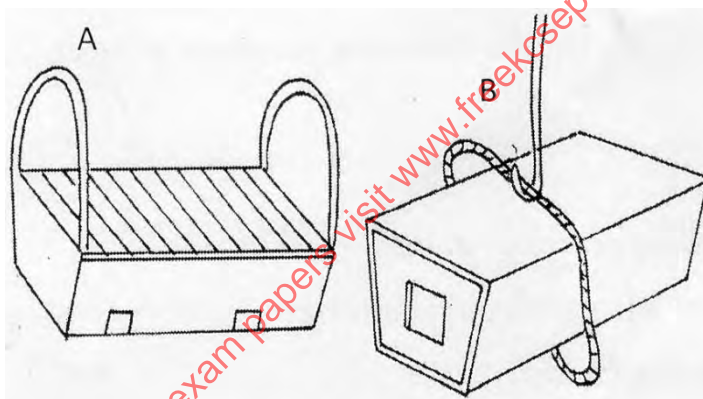
SECTION A

1. Name four rabbit breeds that are reared in Kenya. (2mks)
2. State four structural requirements of a calf pen. (2mks)
3. State six effects of tick attack in cattle. (3mks)
4. State four advantage of artificial calf rearing in dairy cattle management. (2mks)
5. a) Name four post-harvest practices in fish. (2mks)
 b) State four advantages of fish farming in Kenya. (2mks)
6. a) State four causes of egg eating in a flock of layers. (2mks)
 b) Give two reasons for using litter in a poultry house. (1mks)
7. Name two practices that are carried out when preparing ewes for mating. (1mk)
8. State four factors that determine the amount of water required by livestock. (2mks)
9. What is dry cow therapy? (2mks)
10. a) Give six maintenance practices of a wheelbarrow. (3mks)
 b) Name two tools that are used in laying concrete blocks during construction of a wall. (1mk)
11. List six preventive measures for livestock diseases. (3mks)
12. Name four systems of a tractor engine. (2mks)

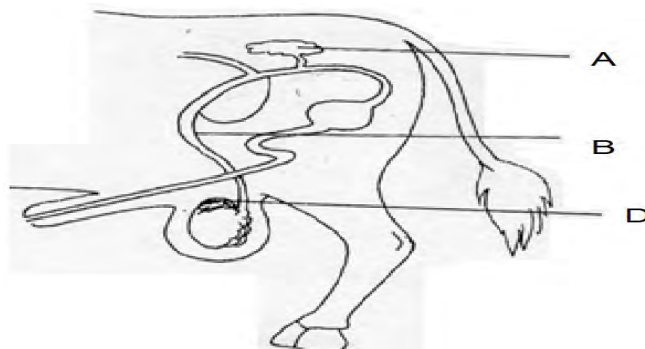
SECTION B

Answer all questions in this section in the spaces provided

13. The diagram labeled A and B below shows two types of bee hives. Study them carefully and answer the questions that follow.

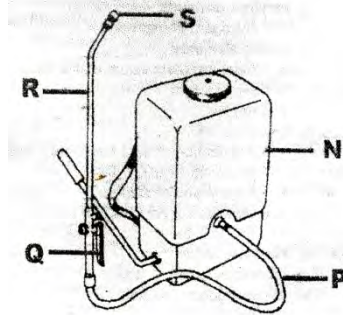


- a) Identify the type of bee hive A and B (2mks)
 - b) State two advantages of A over B (2mks)
 - c) Give two maintenance practices for the named bee hives. (2mks)
14. A farmer wishes to prepare 500kg of a dairy ration containing 40% crude protein. He has maize meal containing 30% crude protein and Desmodium cake containing 60% crude proteins
- a) Using a Pearson Square calculate how much Desmodium cake he will include in the ration. Show your working. (4 mks)
15. The diagram below represents the reproductive system of a bull. Study it and answer the questions that follow.



- a) Identify the parts A,B, and D (3mks)
- b) What is the function of part B (1mk)
- c) What is the function of the fluid secreted by the part labeled A (1mk)

16. Below is a diagram of a knapsack sprayer. Study it carefully and answer the questions that follow.



Page 5 of 9 (Agri. F4 P2)

- a) Name the part labeled N,P,Q and R (2mks)
- b) State one function of the part labeled S. (1mk)
- c) State four maintenance practices carried on the above equipment. (2mks)

SECTION C

Answer any two questions in this section

- 17. a) Describe the uses of fences on the farm. (10mks)
- b) Give five harmful effects of liverflukes in sheep rearing. (5mks)
- c) Explain the factors considered when culling livestock. (5mks)
- 18 a) Describe ten physical characteristics of poultry farmer would use to identify poor layers from a flock of hens. (10mks)
- b) i) Outline 3 characteristics of clean milk. (3mks)
- c) Explain 7 factors that affect milk composition in dairy farming. (7mks)
- 19. a) State five factors to consider when selecting a gilt for a breeding stock. (5mks)
- b) Explain 3 routine livestock feeding practices carried out when rearing livestock. (6mks)
- c) Describe 9 general methods of disease control in livestock. (9mks)

MECS CLUSTER JOINT EXAMINATION

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AGRICULTURE

PAPER ONE

SECTION A(30MARKS)

Answer **ALL** questions in this section

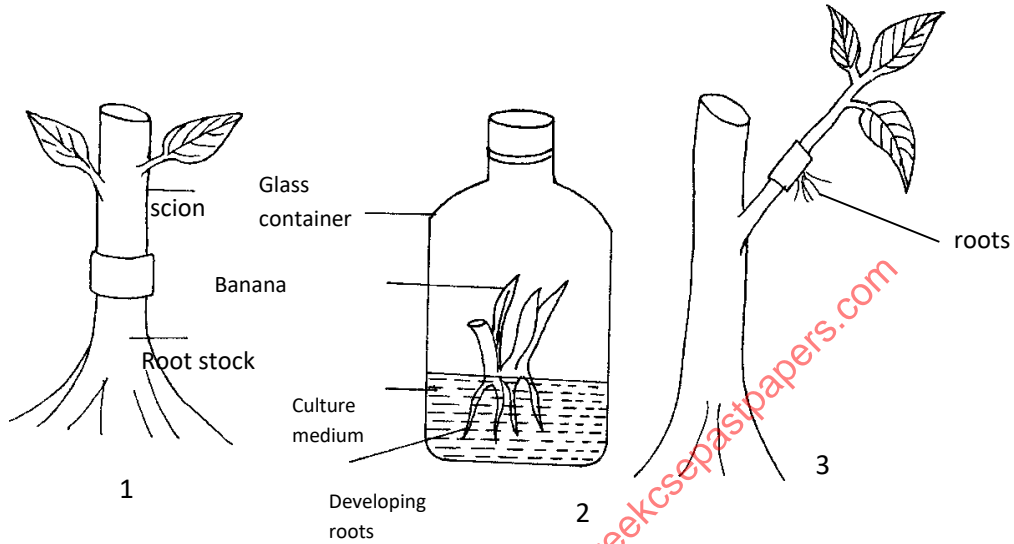
- 1) Name a chemical used to achieve the following during water treatment.
 - (a) Coagulation of solid particles (1/2mark)
 - (b) Softening of water (1/2mark)
 - (c) Killing pathogens (1/2mark)
- 2) State **two** causes of forking in carrots (1mark)
- 3) Name **four** books of account kept by a farmer (2 mark)
- 4) Give the element whose deficiency in plants is characterized by the following
 - (a) Intervinal chlorosis of the leaves(1/2 mark)
 - (b) Blossom end rot in tomatoes(1/2mark)
 - (c) Scorched edges of a leaf(1/2 mark)
- 5) Give **two** roles of agriculture in industrial growth. (1 mark)
- 6) Difference between olericulture and pomoculture (1 mark)
- 7 a) Give **two** disadvantages of hydram pumps (1 mark)
- b) State **two** methods of harvesting Maize (1 mark)
- 8) a) What is Agro forestry. (1mark)
- b) State **four** ways in which Agro forestry is important. (2marks)
- 9) Give **four** farming practices that may help in achieving minimum tillage. (2 marks)
- 10) Define the term “Economic Injury Level” of a crop. (1 mark)
- 11) State **two** conditions when opportunity costs are zero (1 mark)
- 12) State **four** factors that influence solifluction (2 marks)

- 13) Give **four** conditions that necessitate clearing of land. (2 marks)
- 14) Give **four** reasons for keeping health records (2 marks)
- 15) Name any **two** diseases that affect bean production in the field. (1 mark)
- 16) State **four** benefits of crop rotation (2 marks)
- 17) State **four** management practices in a vegetable nursery (2 marks)
- 18) Give **four** methods of land reform practiced in Kenya (2mks)

SECTION B (20 MARKS)

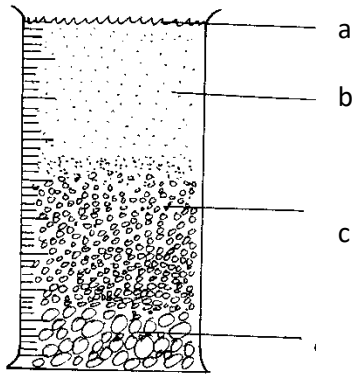
Answer ALL the questions in this section in the spaces provided.

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

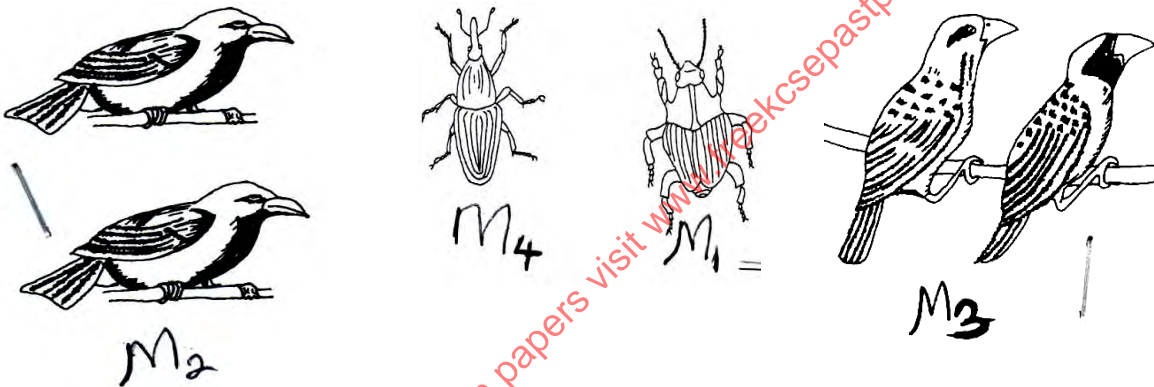


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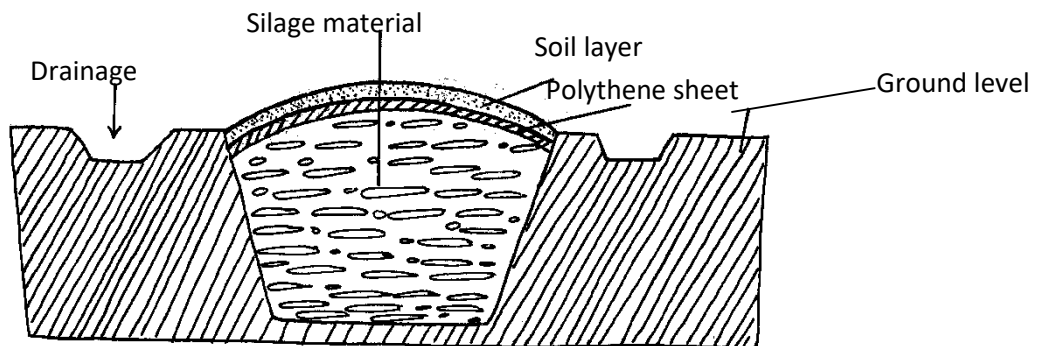
- a) Identify the methods of crop propagation illustrated above. (1½ mark)
 b) Give **one** condition under which method (1) above is carried out. (½ mark)
 c) State **two** disadvantages of using stem cuttings for planting. (2marks)
20. a) Form two student put some soil sample in a measuring cylinder, 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. (4x ½ =2 mark)
 (ii) What was the function of sodium carbonate in this experiment? (1mark)
 (iii) What was the aim of this experiment? (1mark)
21. The diagrams below illustrate both field and storage pests



- a) Identify the pests in the illustration. (4marks)
 b) State **two** ways by which pest labelled M₂ causes loss in cereal crops. (1marks)
 c) State **two** methods which are used to control the pest labeled M₂. (2marks)
22. Study the diagram on silage making shown below and answer the questions that follow.



- a) Identify the silage preparation method shown above. (1mark)
 b) Give **two** precautions taken when ensiling to ensure high quality silage. (2marks)
 c) State **two** advantages of this method of forage conservation over other methods. (2marks)

SECTION C (40 marks)Answer **TWO** questions from this section in the spaces provided

23. a) State and explain **five** agricultural services offered to farmers. (10marks)
b) Give ways in which labour efficiency can be increased in the farm (5marks)
c) State **five** the functions of co-operatives. (5marks)
24. a) Give one reason in each case why it is difficult to control the following weeds.
i) Oxalis
ii) Nut grass
iii) Couch grass (3marks)
b) State **two** main factors which contributes to competitive ability of weeds. (2marks)
c) State **five** safety measures that a farmer must consider to prevent danger to other people and environment when using herbicides. (5marks)
d) Describe any **five** cultural methods of controlling weeds. (10marks)
25. a) 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. (8marks)
ii) From the curves drawn, what is the price per bag when 15 bags of potatoes were supplied? (1mark)
iii) How many bags of potatoes were supplied at Equilibrium price (1mark)
- b) Outline the harvesting of coffee under following subheadings
i) Stage of harvesting (2marks)
ii) Procedure of harvesting (5marks)
iii) Precautions when harvesting (3marks)

MECS II CLUSTER JOINT EXAMINATION

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AGRICULTURE

PAPER 2

SECTION A (30 marks)

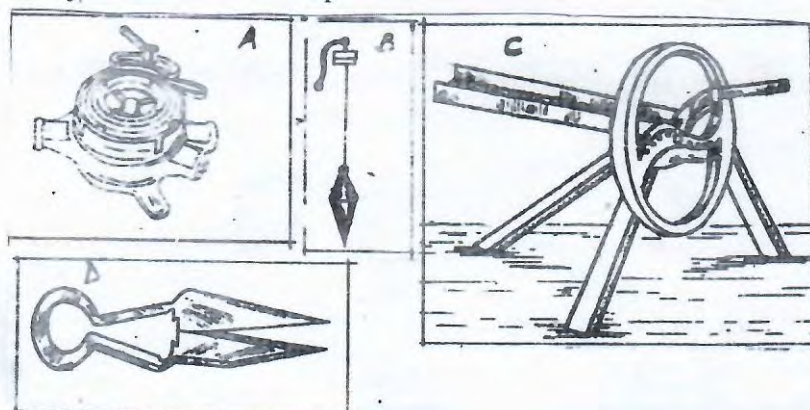
Answer **all** the questions in the spaces provided.

1. Name any **two** dairy cattle breeds reared in Kenya. (1mk)
2. List **four** materials that can be used in constructing a Kenya Top Bar Hive. (2mks)
3. a) What is a zoonotic disease? (½mk)
b) Give **one** example of zoonotic disease. (½mk)
4. a) State **four** factors affecting feed digestibility in livestock. (2mks)
b) State **two** functions of crop in poultry digestive system. (1mk)
5. Give **three** limitations of using solar power on the farm. (1½mks)
6. State **three** reasons for carrying out egg candling before incubation. (1½mks)
7. State **two** functions of a queen bee in a colony. (1mk)
8. Give **two** categories of tractor drawn implements on the basis of the mode of attachment. (1mk)
9. State **two** advantages of natural calf rearing. (1mk)
10. Distinguish between each of the following terms as used in livestock rearing practices.
a) Steaming up and flushing. (2mks)
b) Kindling and farrowing. (2mks)
11. Give **four** reasons of using litter in a deep litter poultry rearing system. (2mks).
12. Give **four** factors considered when siting a fish pond in a farm. (2mks)
13. State **four** reasons for castrating male kids not required for breeding in a farm. (2mks)
14. Mention **four** physical characteristics of exotic beef cattle breeds. (2mks)
15. State **four** reasons that necessitate handling of livestock in the farm. (2mks).
16. List **three** factors that influence the strength of concrete. (1½mks)
17. Name **three** routes through which vaccines can be administered in livestock. (1½mks)
18. Name **four** ways of increasing ploughing depth of the disc plough. (2mks)

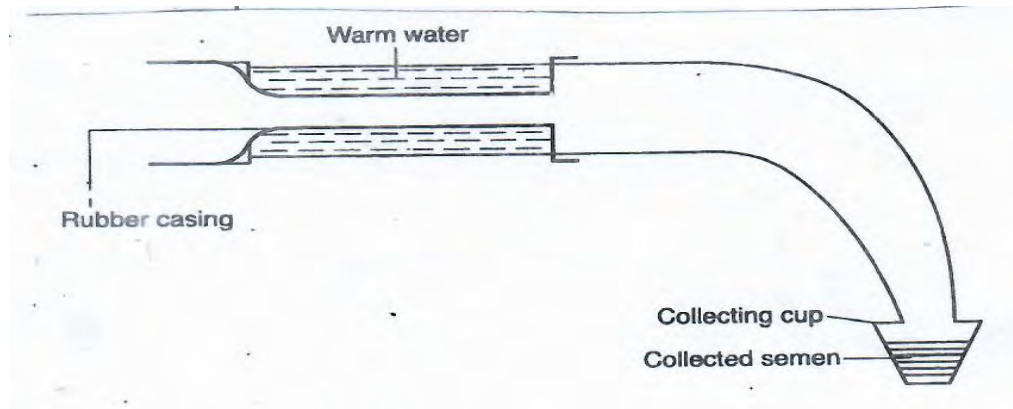
SECTION B (20 Marks)

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

19. a) Using a Pearson's square, Calculate how much of wheat (35% D.C.P) would be mixed with sunflower seedcake (10% DCP) to come up with duck mash (20 % DCP) on a ration weighing 200kg. (show your working) (4mks)
b) Apart from the Pearson's square method, **Name** the other method used in livestock feed computation. (1mk)
20. The diagrams below represent some farm tools and equipment. Study them carefully and answer the questions that follow.



- a) Identify the tools labeled A and B. (2mks)
 b) State **one** use of each of the tools labeled C and D. (2mks)
 c) Explain **one** maintenance practice carried out on tool D. (1mk)
21. The diagram below shows livestock production equipment. Study it and answer the questions that follow.



- a) Identify the equipment. (1mk)
 b) What is the importance of the warm water in the equipment. (1mk)
 c) Describe the procedure followed when using the equipment in collecting semen. (3mks)
22. The diagram below shows various methods of a **practice** in livestock production.



- a) Name the practice. (1mk)
 b) Name the methods A, B, and C. (3mks)
 c) State **one** disadvantages of method A. (1mk)

SECTION C (40 Marks)

Answer any **two** questions from this section in the spaces provided after question 25;

23. a) State **five** signs of parturition in a cow. (5mks)
 b) State **five** control measures of Round worms (*Ascaris lumbricoides*) in livestock. (5mks)
 c) Describe Coccidiosis disease under the following sub-headings.
 i) Animals attacked. (2mks)
 ii) Symptoms of attack. (5mks)
 iii) Control (3mks)
24. a) Outline **five** factors that contribute to the distribution of livestock in Kenya. (5mks)
 b) Describe **five** maintenance practices carried out on a rotary mower. (5mks)
 c) Discuss **five** factors affecting milk composition in livestock production. (10mks)
25. a) Describe the artificial rearing of layers chick from one day up to the end of brooding. (10mks)
 b) Outline the uses of fences in the farm. (10mks)

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AGRICULTURE
PAPER 1

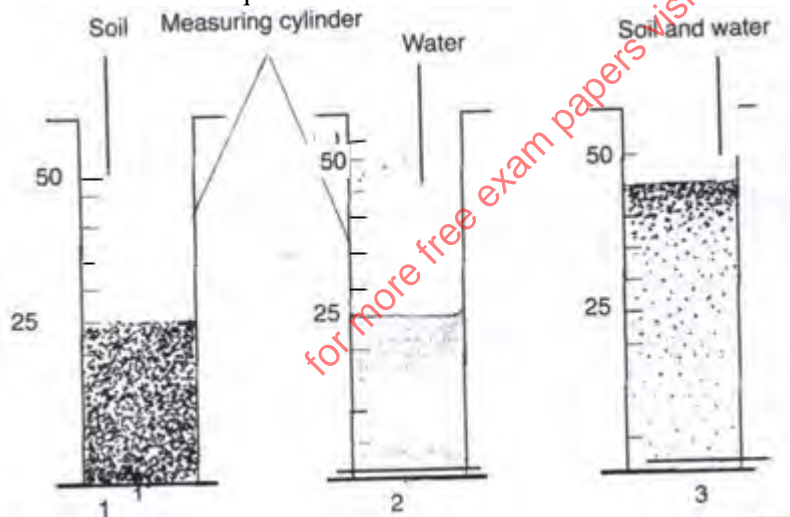
SECTION A(30 marks):Answer all questions in the spaces provided.

Answer all the question in the spaces provided

1. Name four activities carried out to increase field crop production (4marks)
2. List four factors that favour large scale farming in crop production (2marks)
3. State two government policies that encourage production of agricultural goods locally within the country (1mark)
4. Name four factors that contribute to formation of soil (2 marks)
5. State four effects of adding organic matter to a sandy soil (2 marks)
6. Name three aspects of light that affect agriculture (1 ½ marks)
7. State four factors that determines the number of secondary cultivation operations during crop production (2 marks)
8. State four importance of drainage in water logged soils before crop planting (2marks)
9. State four ways through which soil losses fertility (2 marks)
10. List four parts of information contained in a marketing record (2marks)
11. List four importance of suitable soil pH in crop production (2marks)
12. State four factors influencing the selection of planting material (2marks)
13. List four advantages of row planting over broadcasting (2marks)
14. State four practices carried out after transplanting tree seedlings (2marks)
15. a) Name two forms of collective land tenure system (1 marks)
- b. Outline three general objectives of the million acre scheme (1½ marks)
16. Differentiate between land tenure and land tenure reform (1 marks)

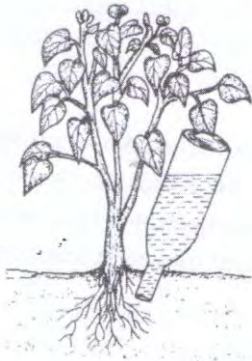
SECTION B (20mks) Answer all questions in the spaces provided

17. The diagram below shows results of an experiment carried out to analyze a soil sample. Study it carefully and answer the question that follow:



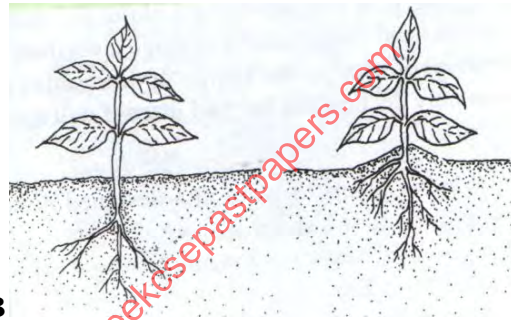
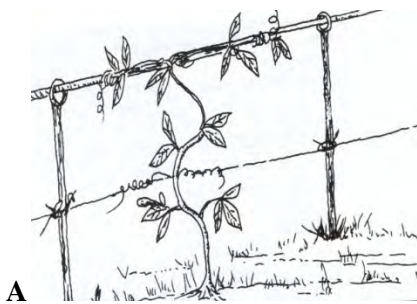
- a. State the soil characteristic being investigated (1mk)
 - b. Calculate the quantity of the substance of the characteristic being investigated (1mks)
 - c. Name two constituents of the substance being investigated above (2mks)
 - d. State the importance of any one of the constituents named in (c) beneficial to plant growth (2mks)
18. In a farm the soil was analyzed and found to be deficient in all the three macronutrient elements. It required 60Kg Nitrogen, 30Kg P₂O₅ (Phosphorous Pentoxide) and 40 Kg K₂O(Potassium Oxide).The fertilizer available were sulphate of Ammonia (20% Kg Nitrogen, Single Super Phosphate 20% P₂O₅ and Muriate of Potash (50% K₂O).
- (i) Calculate the total amount of Sulphate of Ammonia required (2mks)
 - (ii) Calculate the total amount of Muriate of Potash required (2mks)
 - (iii) Calculate the fertilizer ratio of a fertilizer grade NPK 20:10:10 (1mk)

19. Study the diagram below and use it to answer the following questions



- a. Name the type of irrigation illustrated (1mk)
- b. State three advantages of the type irrigation above (3mks)
- c. List two uses of water in the farm (1mk)

20. Study diagrams below and answer the following question



- a. Name the process illustrated above in A and B (2mks)
- b. Name a similar practice carried out in bananas (1mk)
- c. State two importance of practice B in Irish potato production (2mks)

SECTION C(40 marks)

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

- 21. (a) State and explain five factors that determine the spacing in crop production (10 marks)
- (b) Describe the production of bulb onions under the following subheading
 - i) Common varieties (2marks)
 - ii) Land preparation (2marks)
 - iii) Field management (4marks)
 - iv) Harvesting (4marks)
- 22. (a) Explain five cultural method of weed control (10mks)
- (b) Describe ten harmful effects of crop pests (10mks)
- 23. (a) State four control measures of river bank erosion (4mks)
- (b) Give four disadvantages of preserving fodder as silage (4mks)
- (c) State four effects of late defoliation in Napier grass utilization (4mks)
- (d) Give four symptoms of viral infections in crops (4mks)
- (e) State four ways through which labour productivity can be improved (2mks)

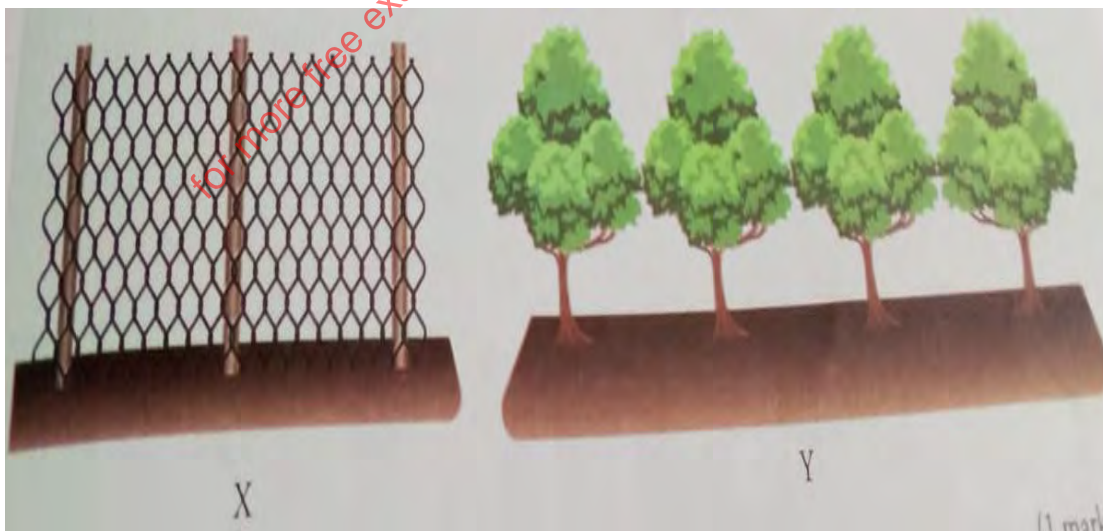
KIGUMO
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AGRICULTURE
PAPER 2

SECTION A(30 marks):Answer all questions in the spaces provided.

1.
 - a) State two causes of soft shelled eggs in poultry production. (1 mark)
 - b) What is the reason for turning eggs regularly during incubation? (1 mark)
2. State the uses of the following tools and equipment.
 - a) Tinsnips (1/2 mark)
 - b) Router (1/2 mark)
 - c) Wire strainer (1/2 mark)
 - d) Burdizzor (1/2 mark)
3. Outline four characteristics of the Jersey breed that will make a farmer choose to keep them instead of keeping Friesian breed of cattle. (2 marks)
4. State four disadvantages of nomadic pastoralism system of rearing livestock. (2 mark)
5. Give four notifiable diseases affecting cattle. (2 marks)
6. Give two reasons why walls in dairy sheds should be white washed instead of painting with water or oil based paints. (1 mark)
7. State two practices carried out to introduce artificial immunity in livestock. (1 mark)
8. Give four physiological body processes used to indicate the health status of an animal. (2 marks)
9. State four factors that can affect maintenance ration requirements of an animal. (2 marks)
10. (a) Give three reasons for breeding in livestock. (1½ mark)
(b) Outline three effects of tsetse flies on livestock. (1½ marks)
11. Give two hormones that influence milk let down. (1 mark)
12. State four maintenance practices of a dairy shed. (2 marks)
13. Differentiate between roughages and concentrates in livestock production. (2 marks)
14. State two functions of the differential in a tractor power transmission system. (1 mark)
15. State three factors that contribute to a high working efficiency of a disc harrow. (1½ marks)
16. Give three reasons for steaming-up in dairy animals. (1½ mark)
17. Give four functions of an egg shell. (2 marks)

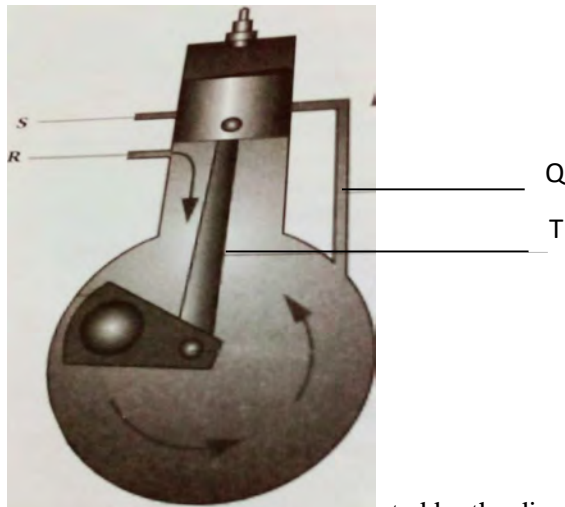
SECTION B (20 MARKS)Answer questions in the spaces provided

18. Study the illustration of fences below and answer the questions that follow.

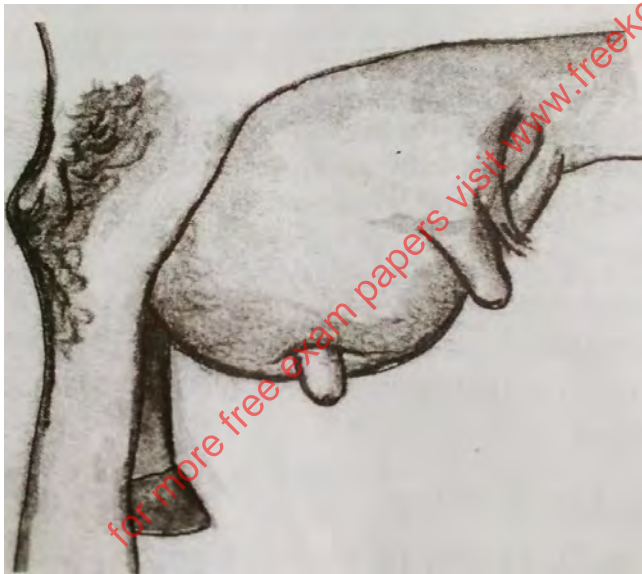


- a) Name the type of fence labeled X and Y respectively. (2 marks)
- b) Name the correct tool used in maintenance of fence Y. (1 mark)
- c) State two advantages that fence Y have over fence X. (2 marks)

19. Below is a diagram showing the cycle on the working mechanism of an engine. Use it to answer the question that follow.

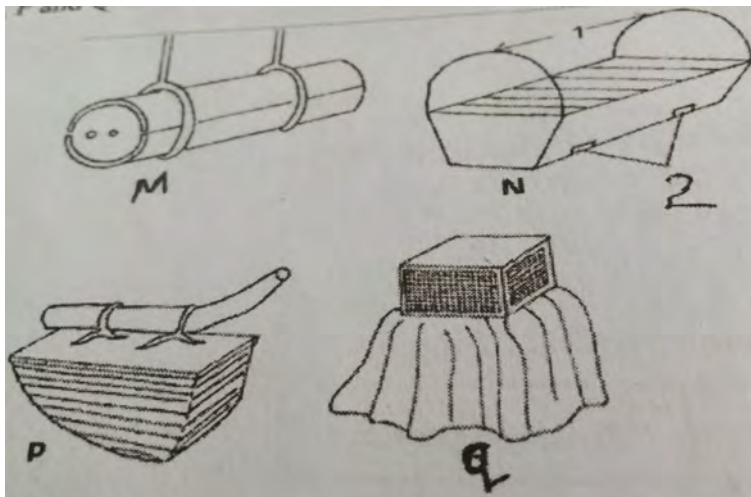


- a) With a reason, name the type of engine represented by the diagram shown above. (1 mark)
 - b) Name the parts labeled Q and S. (1 mark)
 - c) Using an arrow indicate the direction of motion of the piston. (1 mark)
 - d) State the advantages of the engine represented by the cycle shown above. (2 marks)
20. The illustration below shows a dairy cow suffering from a certain disease.



- a) Identify the disease the cow is suffering from. (1 mark)
- b) State two symptoms of the disease named above. (2 marks)
- c) State four predisposing factors to the above disease. (2 marks)

21. Diagram M, N, P and Q shows some structures used in livestock production. Use them to answer the questions that follow.



- Identify the structures labeled M, N, P and Q. (2 marks)
- State the uses of equipment P. (1 mark)
- State one advantage of structure N over structure M. (1 mark)
- State the use of the parts labeled 1 and 2 on structure N. (1 mark)

SECTION C(40 MARKS) Answer any two questions from this section in the spaces provided

- 22.
- Outline five qualities of clean milk. (5 marks)
 - Give four reasons for treating timber before using it for construction. (4 marks)
 - State four features of large white breeds of pigs. (2 marks)
 - Explain nine measures used to control livestock diseases. (9 marks)
- 23.
- Describe the lifecycle of a three host tick. (6 marks)
 - Describe the feeding practices required in artificial rearing of a dairy calf. (8 marks)
 - Describe the maintenance practices of the water cooling system of a tractor engine. (6marks)
- 24.
- Give five functions of water in animals. (5 marks)
 - State and explain five factors considered when culling livestock. (10 marks)
 - Name and give the functions of five tools and equipment used in construction of stone walls. (5 marks)

SECTION A (30MARKS)

Answer all questions

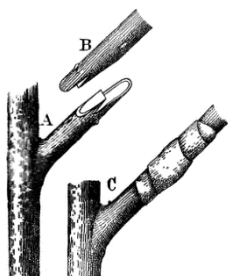
from this section on the spaces provided.

1. State **two** importance of optimum soil temperature. (1mark)
2. Give **three** advantages of adding organic matter to sandy soil. (1½mark)
3. a) State **three** reasons for including leguminous crops in green manures. (1½marks)
- b) Give **two** reasons stating why use of manure is limited to small scale farming? (1mark)
4. List **two** effects of the parent material to soil formation. (1marks)
5. What is the importance of dark soil color? (1mark)
6. Give **two** reasons for each of the following operations. (2marks)
 - a) Rolling the soil.
 - b) Minimum tillage.
7. Explain how aeration as a method treats drinking water. (1mark)
8. Other than expenses during installation why is sub-surface irrigation discouraged? (1mark)
9. How do farm records help a farmer make insurance claims? (1mark)
10. Give reasons for each of the following when making compost manure. (1mark)
 - a) Addition of topsoil.
 - b) Addition of ash.
11. What does a fertilizer grade of 20-0-30 represent? (1mark).
12. a) Differentiate between oversowing and undersowing. (1mark)
- b) Give **two** advantages of oversowing. (1mark)
13. List **three** features of basket granaries. (1½marks)
14. Differentiate between Gross Domestic Product and Gross National Product. (2mark)
15. List **three** importance of farm budgeting. (1½marks)
16. State **four** effects of late defoliation in pasture management. (2marks)
17. List **three** functions of the Pyrethrum Board of Kenya. (1½marks)
18. a) What is solifluction? (1marks)
- b) Give **two** roles of terraces. (1mark)
- c) What are “Z” plots? (½marks)
19. Differentiate between competitive products and complementary products. (1mark)
20. What **four** cultural methods should a farmer use to control crop diseases? (2marks)

SECTION B (20MARKS)

ANSWER ALL QUESTIONS FROM THIS SECTION ON SPACES PROVIDED

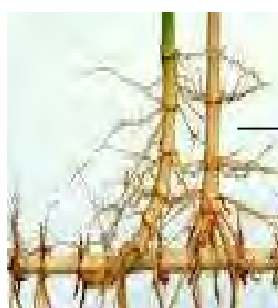
21. Identify the following methods of propagation. (1½marks)



S



T



V

- a) What **three** factors contribute to the success of method S? (1½marks)
- b) On the diagram name parts B and C. (1mark)
- c) Why should the method in T have part U? (1mark)
- d) Name **two** crops propagated by use of method V. (1mark)

22 a) Identify the weeds shown below.

(1½ marks)



X



Y



Z

- b) What are the harmful effects of weed X and Y respectively?
 c) How does weed Z lower production?
 d) Name **two** herbicides that can control the weeds above.

(1mark) ...
 (1mark)
 (1mark)

23. Study the diagrams of the pests given below and then answer that follow.



J



K

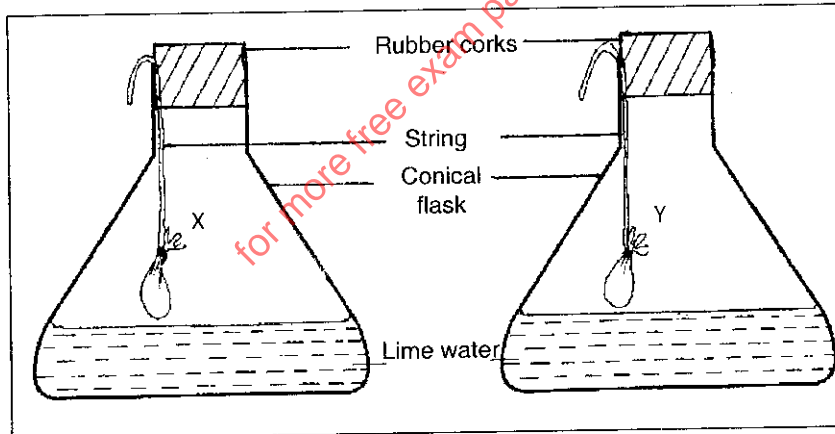


L

- a) Identify pest J and L.
 b) Describe the damage caused by pest K.
 c) List **two** symptoms of attack due to pest J.
 d) Explain how crop rotation as a method controls pests.

(1mark)
 (1mark)
 (1mark)
 (1mark)

24 (A) An experiment was set up as shown in the diagram below. Study it and answer the questions that follow.



- i) Why was the soil in X first heated?
 ii) State the expected observations in each flask.
 iii) Give **two** roles of soil living organisms.

(1mark)
 (1mark)
 (1mark)

(B) Mutua's farm made the following purchases on credit from Kenya farmers association on 30th March 2014.

- 10bags of bran 70kgs @ Kshs. 1000
 18bags of DSP 50kgs each @ Kshs.,. 1500
 24kg of bean seeds each 2kgs @ Kshs. 300

Prepare the invoice that KFA made to Mutua's farm.

(3marks)

SECTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION ON FOOLSCAPS PROVIDED

- 25 a) Describe the procedure in aerial layering. (5marks)
b) Why is land consolidation considered to be important? (5marks)
- c) A farmer has 20 ha of land, 8ha under maize, 4ha of which is under wheat, 4ha under fodder crops and the rest under pastures. She wishes to know whether replacing 4ha of maize with Irish potatoes the following year would be worthwhile. The fertilizer would have to be increased from 5 bags per ha for maize to 7 bags per ha for Irish potatoes and an extra 10 man –days of casual labour per ha will be necessary as a result of the change. The average yield of maize and Irish potatoes is 30 and 50 bags/ha respectively. The prices are Ksh.1400 per bag for maize and Ksh.1200 per bag for Irish potatoes. Seed costs are Ksh.2000 per ha for maize and Kshs.4000 per ha for Irish potatoes. Fertilizer costs are Ksh.1300 per bag. Labour is paid at Ksh. 150 per man-day.

Draw up a partial budget and indicate the effects of the change. (10marks)

- 26 a) Describe the single stem pruning in coffee. (6marks)
b) Describe the factors that influence soil erosion. (8marks)
c) Explain how the government assists the farmers to avoid risks and uncertainty. (6marks)
- 27 a) Outline the principles that govern farmer’s co-operative societies. (7marks)
b) Describe bean production under
Land preparation
Planting
Pest control (8marks)
c) Describe the process of hay making. (5marks)

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SECTION A: (30MARKS)

ANSWER ALL QUESTIONS FROM THIS SECTION ON THE SPACES PROVIDED.

- 1 a) Give **two** qualities that make thatch a good roofing material. (1 mark)..
b) Name **three** components of a truss. (1½ marks)
2. Give **two** reasons why Jersey breed of cattle is well suited to semi arid conditions. (1 mark)
- 3 a) State the effect of wrong turning of the egg. (½ mark)
b) At what stage is soluble grit introduced to layer birds? (½ mark)
4. Give **two** uses of a wood float. (1 mark) .
5. What **three** conditions may lead to culling of a breeding boar? (1½ marks)
6. Identify **two** practices carried out to increase timber durability. (1 mark)
- 7 a) State **three** characteristics of the Hampshire Down breed. (1½ marks)
b) Name the **two** breeds of camels. (1 mark)
- 8 a) List **three** general functions of vitamins. (1½ marks)
b) Simsim cake, a livestock feed has a starch equivalent of 40%. Explain. (1mark)
- 9 a) Explain how parasites cause economic losses to the farmer. (1mark)
b) List **three** effects of Fleas to livestock. (1½ marks)
10. Tabulate **two** features that differentiates between dairy and beef cattle. (2 marks)
11. Define the following terms as used in livestock production. (1½ marks)
a) Digestibility
b) Prolificacy
c) Malpresentation
12. Give **three** advantages of the contemporary comparison method of selection. (1½marks)
13. Why should bees be fed on sugar syrup? (1mark)
14. State **three** reasons for maintaining livestock tools. (1½mark)
15. Differentiate between butter and ghee. (1mark)
16. What is the advantage of using forage harvesters compared to a mower? (1mark)
17. Give **three** maintenance practices of ox – tine harrows. (1½marks)
18. List **two** functions of a tractor clutch. (1mark)
- 19 a) Give **two** pre disposing factors of pneumonia to calves. (1mark)
b) Identify **three** areas infested with a three- host tick on a Boran bull. (1½marks)

SECTION B: (20MARKS)

ANSWER ALL QUESTIONS FROM THIS SECTION ON SPACES PROVIDED

1. Study the structure of a calf pen below and then answer the questions that follow.



- a) Specify the measurements of H and N. (1mark)
 - b) State the function of part K. (1mark)
 - c) Why are parts U fitted at 1mm apart? (1mark)
 - d) List **two** reasons for housing the calves singly. (1mark)
- 21(a) Identify the equipments X and Y below. (1mark)



X



Y

- b) State the functions of each of the equipments. (2marks)
 - c) i) Name the tool used to castrate a piglet. (½mark)
 - ii) Give **two** reasons for castrating a male pig. (1mark)
- 22 (a) Identify the parasites below. (1mark)

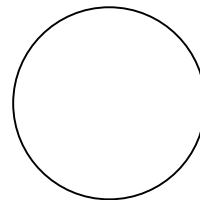
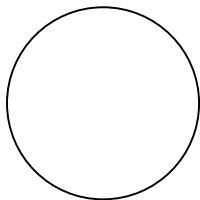


U



W

- b) Name two species of parasite U. (1mark)
 - c) Why is it difficult to control parasite U? (1mark)
 - d) How can one control parasite W? (½mark)
 - e) A farmer wanted to mix 270kg of livestock feed containing 30% DCP by using Sorghum meal with 12% DCP and Soyabean meal containing 36% DCP. Calculate the quantities of each feedstuff he would have in the ration. (2marks)
- 23 (a) Explain the behavior of the chicks shown by the following illustrations. (2marks)



- b) What is the role of the part labelled V? (½ mark)
- c) i) Identify the rabbit breed below. (1mark)



- ii) On the diagram name parts 1-3. (1½ marks)
- d) The young of a rabbit is called..... while the male rabbit is referred to as (1mark)

SECTION C: (40MARKS)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION ON FOOLSCAPS PROVIDED.

- 24 a) Describe the procedure for honey harvesting. (5marks)
- b) Name ten parts of an ox- drawn plough and state the function of each. (10marks)
- c) Explain how physiological factors are used as a sign of ill or good health. (5marks)
- 25 a) Describe the process of milk let down in a cow. (6marks)
- b) Describe the procedure of embryo transplant in cattle. (9marks)
- c) Describe cattle management during dipping (5marks)
- 26 a) Outline the control measures of mastitis. (5marks)
- b) Describe the method of preparing a table bird for marketing. (10marks)
- c) Outline the general characteristics of indigenous cattle. (5marks)

KISII DIOCESE SCHOOLS

443/1

AGRICULTURE

Paper 1

DEC. 2020

SECTION A (30 marks)

Answer all questions in this section in the spaces provided

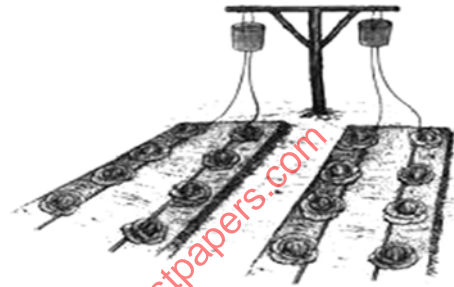
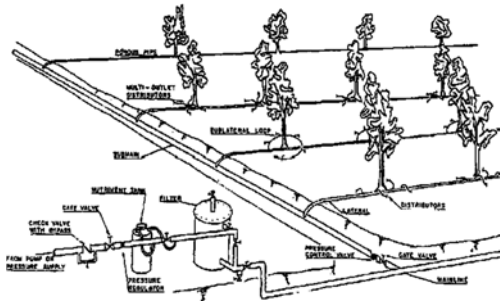
1. State **four** characteristics of extensive farming system (2 marks)
2. State **four** minimum tillage practices (2 marks)
3. State the meaning of **each** of the following terms as used in crop production.
 - a). Thinning (1 mark)
 - b). Pricking out (1 mark)
 - c). Rogueing (1 mark)
4. Outline **four** sources of capital in the farm (2 marks.)
5. State **four** factors that determine the stage of harvesting crops (2 marks)
6. (a) State **four** roles of organic matter in sandy soils (2 marks)
7. Name **one** crop that is propagated by each of the following
 - a) Stem tuber (½ mark)
 - b) Split (½ mark)

- c) Slip (½ mark)
- d) Bulbil (½ mark)
- 8. Give **four** factors that can increase seed rate (2 marks)
- 9. State **two** ways by which soil pH. may affect crop production (1 mark)
- 10. Differentiate between monopoly and monopsony (2 marks)
- 11. State **four** disadvantages of communal land tenure system (2 marks)
- 12. Give **four** factors that influence the number of secondary cultivation operations in seedbed preparation (2 marks)
- 13. List **four** methods of farming (2 marks)
- 14. List **four** benefits of under sowing in pasture management (2 marks)
- 15. State **four** details that may be contained in an invoice (2 marks)

SECTION B (20 marks)

Answer all the questions in this section in the spaces provided

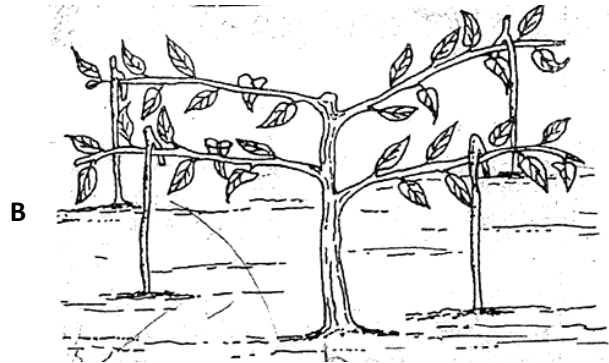
16. The images below represent one method of irrigation. Use them to answer the questions that follow.



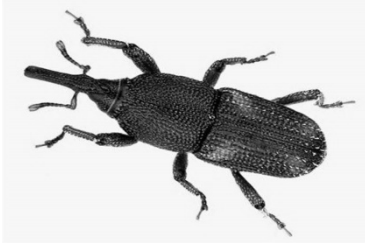
- a). Identify the irrigation method illustrated above (1mark)
- b). State **four** advantages of the irrigation method illustrated above (4 marks)

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17. The following are illustrations of tea pruning methods. Study them carefully and answer the questions that follow.



- (a). Identify the pruning methods illustrated above (2 marks)
 (b). Give **three** reasons for pruning tea (3 marks)
18. A farmer is advised to apply 60kg N, 20kg P₂O₅, and 30kg K₂O per hectare. Calculate the quantity of urea (46% N), single super phosphate (20% P₂O₅) and muriate of potash (50% K₂O) the farmer should apply per hectare of land. (5 marks)
19. Below are photographs of common pests. Use them to answer the questions that follow.



- P**
- a). Identify the pests above (2 marks)
 b). Describe the damage caused by pest **P** (1 mark)
 c). State **two** ways of controlling the pests (2 marks)

SECTION C (40 marks)

Answer any two questions from this section in the spaces provided after question 22.

20. (a) Describe **seven** cultural methods of soil and water conservation. (7 marks)
 (b) Discuss the harvesting of pyrethrum under the following sub headings
 i) Harvesting procedure (4 marks)
 ii) Precautions during harvesting (3 marks)
 (c) Describe **three** methods of harvesting agroforestry trees (6 marks)
22. (a) The following information was extracted from Makueni Farm Records for the financial year ending on 30th June 2019. Use it to prepare a profit and loss account for the farm. (6 marks)
- Rent received Sh. 10,000
 - Egg sale Sh. 60,000
 - Repair of tractor Sh. 30,000
 - Opening valuation Sh. 80,000
 - Interest on Bank loan Sh. 20,000
 - Tax paid Sh. 40,000
 - Closing valuation. Sh. 90,000
 - Purchase of farm inputs Sh. 90,000
 - Debts receivable from farmers' co-op society Ksh 100,000
 - Maize sales Sh. 55,000
- (b) Outline **five** factors which determine the quality of hay (5 marks)
 (c) Describe **three** mechanical methods of weed control (6 marks)
 (d) Explain how water is treated to remove solid impurities (3 marks)
23. (a) Explain the factors which may lead to increased demand for maize (8 marks)
 (b) Explain how physical agents of weathering may lead to soil formation (8 marks)
 (c) Outline **four** advantages of tillage method in weed control (4 marks)

KISHI DIOCESE SCHOOLS
443/2
AGRICULTURE
PAPER 2
2 HOURS
DEC. 2020

SECTION A (30mks)

Answer all questions in this section in the spaces provided

1. Name the hormone that is concerned with milk let down. (1/2mk)
2. State **three** factors that make a lactating cow to withhold milk during milking $1\frac{1}{2}$ (mks)
3. Mention **four** causes of stress in a flock of layers. (2mks)
4. Give **four** conditions under which a farmer would use an ox-plough instead of a tractor power for a seed bed preparation. (2mks)
5. Give **two** factors a farmer should consider when selecting a garden tool for cultivation. (1mk)
6. Differentiate between drift lambing and pen lambing in sheep management. (2mks)
7. Give the meaning of the following terms as used in livestock health
 - a. Osteomalacia
 - b. Pica
8. a) Name **two** tick borne diseases in livestock. (1mk)
 b) State **four** non-chemical methods of controlling ticks. (2mks)
9. State **one** advantage of each of the following practices in livestock production. (3mks)
 - i. Iron injection of piglets
 - ii. Docking of the lambs
 - iii. Debeaking in poultry
10. Give **two** reasons for raising the rabbit hutch above the ground level. (1mk)
11. State **four** characteristics of goats that make them adaptable to arid areas of Kenya. (2mks)
12. State the observations on the behavior of chicks which would indicate that the temperature of the brooder is too high. (2mks)
13. State **two** methods used to stock beehives. (2mks)
14. Mention **four** qualities of a good vaccine. (2mks)
15. State **four** management practices carried out in a crush. (2mks)
16. Give **two** reasons for adding fertilizers and manure in fish ponds. (2mks)

SECTION B

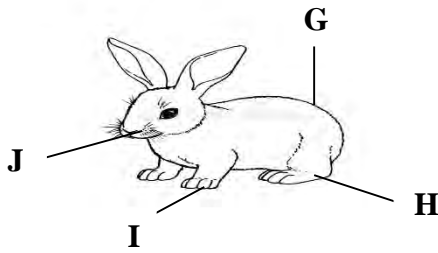
Answer all questions in this section in the spaces provided.

17. Observe the tools K, L, M and N illustrated below and answer the questions that follow.

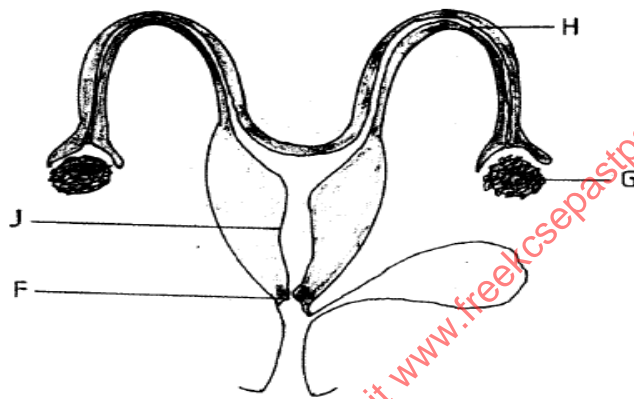


- a. Name the tools illustrated above. (2mks)
- b. State the functions of the following tools M and N above. (2mks)
- c. Explain one maintenance practice carried out on tool L. (1mk)

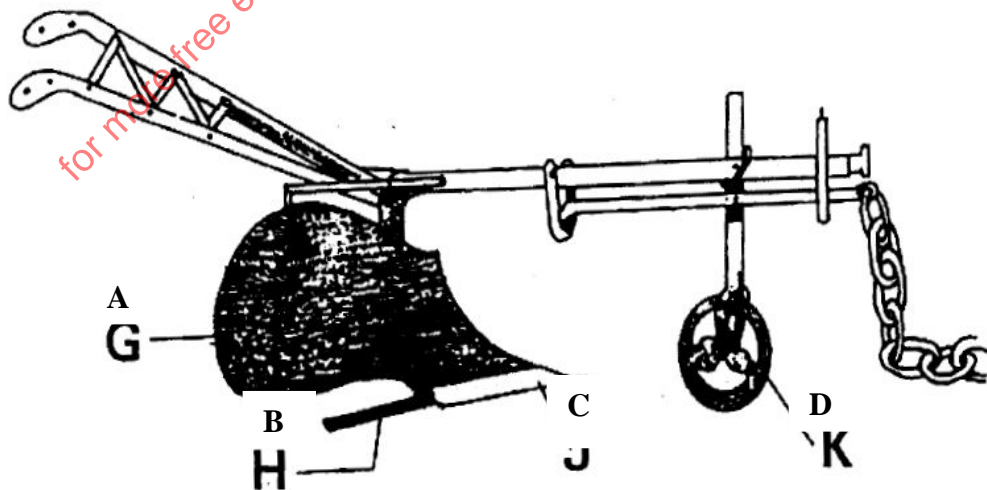
18. A diagram of a rabbit is shown below. Study it and answer the questions that follow



- Name the parts labelled G, H, I and J. (2mks)
 - List **two** distinguishing characteristics of California breed of rabbit. (1mk)
 - If the record showed that a rabbit was served on 27th September 1994, what date did it give birth? (1mk)
 - Give **one** sign that would indicate that a doe is about to give birth. (1mk)
 - Mention **one** economic importance of rabbit keeping in Uganda. (1mk)
19. The diagram below shows the reproductive system of a cow. Study it and answer the questions that follow.



- Identify the parts labelled F and H. (2mks)
 - Give **two** functions of the part labelled G. (2mks)
 - State the role of the part labelled J. (1mk)
20. The diagram below shows a farm implement. Study it and answer the questions that follow



- Identify the farm implement illustrated above. (1mk)
- Name the parts labelled A, B, C and D. (2mks)
- State **four** functions of the farm implement above. (2mks)

SECTION C (40 MARKS)

Answer any two questions from this section in the spaces provided

21. a). State four importance of internal parasite in livestock (4mks)
b). Explain various methods of controlling internal parasites in livestock. (7mks)
c). Discuss milk fever under the following sub-headings
i) Cause. (1mk)
ii) Symptoms. (5mks)
iii) Control. (3mks)
22. a) Describe the management practices carried out on piglets immediately after birth up to weaning. (15mks)
b) explain five uses of hedges in the farm. (5mks)
23. a) outline the advantages of farm mechanization. (8mks)
b) describe the working mechanism of a two-stroke cycle engine. (8mks)
c) Give four maintenance practices carried out on a water-cooling system of a tractor. (4mks)

MURANGA SOUTH

443/1

AGRICULTURE

PAPER 1

NOVEMBER – DECEMBER 2020

SECTION A: (30 MARKS)

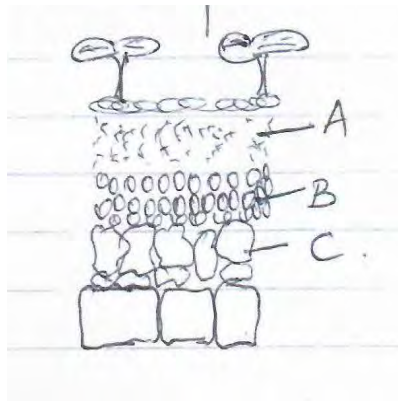
ATTEMPT ALL QUESTIONS IN THIS SECTION

1. List three factors that would determine the stage at which a crop is harvested. (1 ½mks)
2. State four biotic factors that influence crop production. (2mks)
3. State four ways of harvesting water on the farm. (2mks)
4. Explain four reasons for early land preparation. (2mks)
5. Differentiate between thinning and gapping as used in Agricultural production. (1mk)
6. Name three sources of underground water. (1 ½mks)
7. State three reasons why farmers are encouraged to use certified seeds for planting. (1 ½mks)
8. List four disadvantages of organic farming. (2mks)
9. State two importance of soil testing. (1mk)
10. State four advantages of herding. (2mks)
11. Name four structural methods of soil and water conservation. (2mks)
12. Name four precautions a farmer should observe when harvesting Agricultural produce. (2mks)
13. List four categories of individual land tenure system. (2mks)
14. List three classification of pests based on mode of feeding. (1 ½mks)
15. State four importance of layering in crop production. (2mks)
16. State four types of information that a farmer can record in a dairy breeding record. (2mks)
17. State four marketing functions of Kenya Co-operative Creameries (KCC). (2mks)

SECTION B (20 MARKS)

Answer all questions in the spaces provided

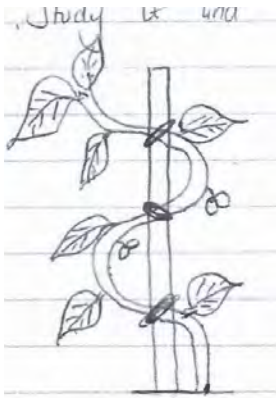
18. The diagram below illustrates a feature observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.



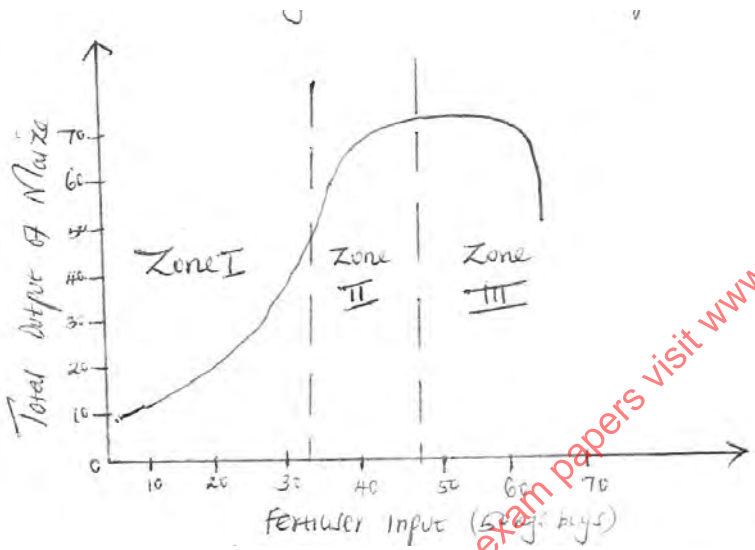
- a) Identify the feature the diagram above represents in the study of soil. (1mk)
- b) Name the parts of the diagram labeled A and C. (1mk)
- c) State two ways in which the knowledge of the above feature would be of benefit to a farmer. (2mks)

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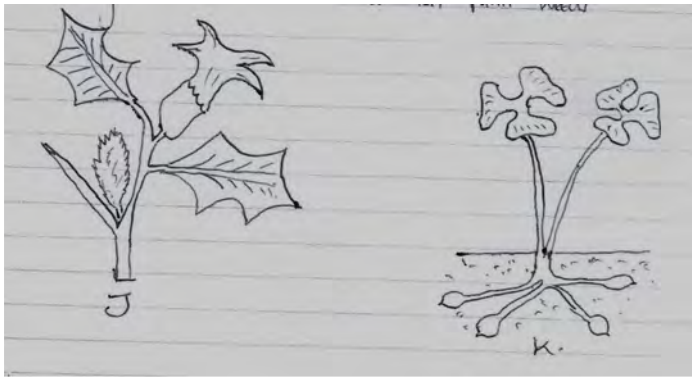
19. The diagram below illustrates a field management practice in tomatoes. Study it and answer questions that follow.



- a) Identify the field practice. (1mk)
 - b) State three reasons for carrying out the practice. (3mks)
20. Below is a graphical representation of a law in agricultural economics. Study it and answer questions that follow.



- a) Identify the law illustrated by the graph. (1mk)
 - b) Explain how each additional unit of fertilizer input relates to the total output of maize in zone I and zone III.
 - Zone I..... (1mk)
 - Zone III..... (1mk)
 - c) State the importance of the law identified above to maize farmers. (1mk)
21. The diagram below shows common farm weeds.



- a) Identify the weeds J and K. (2mks)
 - b) Classify weed J according to its life cycle. (1mk)
 - c) Why is it difficult to control the weed labeled K. (1mk)
22. a) 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 are: -
- i) name two macronutrients (1mk)
 - ii) name two fertilizer elements (1mk)
- b) Calculate the amount of K_2O contained in 400kg of a compound fertilizer 25:10:5 (2mks)

SECTION C (60 MARKS)

Answer any two questions in this section

23. a) Describe four characteristics of fertile soil. (4mks)
- b) Describe the factors that contribute to the competitive ability of weeds. (6mks)
- c) State the functions of a farm manager. (5mks)
- d) Explain the factors that can encourage soil erosion. (5mks)
24. a) Outline the negative effects of wind in crop production. (4mks)
- b) Explain five biological factors that influence soil formation. (5mks)
- c) State and explain the importance of any four management practices carried out in a tree nursery. (8mks)
- d) Describe the precautions taken when harvesting coffee. (3mks)
25. a) Explain how farmers overcome risks and uncertainties in farm business. (7mks)
- b) Describe the production of kales under the following sub-headings.
- i) Field management practices. (6mks)
 - ii) Transplanting (7mks)

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AGRICULTURE

PAPER 2

SECTION A (30 MARKS)

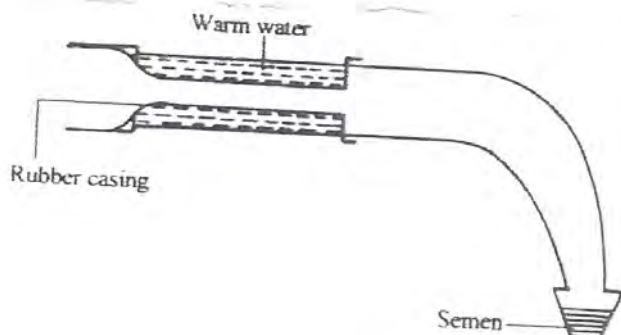
ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1. Give **four** physical characteristics of a dairy cow. (2mks)
 2. State **four** importance of keeping livestock healthy. (2mks)
 3. How does isolation help in livestock disease control? (1mk)
 4. Give a reason why it is not recommended to feed Irish potatoes to non-ruminant animals? (1mk)...
 5. Give four reasons for treating timber before using on farm structures. (2mks)
 6. State four reasons for farm mechanization. (2mks)
 - The following is a list of livestock diseases.Brucellosis
 - Trypanosomiasis
 - New castle
 - Anthrax
 - African swine fever
 - Black quarter
- Which of the two diseases
- a) Are both bacterial and zoonotic (1mk)
 - b) Highly infectious. (1mk)
7. State four qualities of marketable eggs. (2mks)
 8. Outline four factors a farmer should consider before buying a tractor for use in the farm. (2mks)
 9. Give four advantages of the deep litter system in poultry rearing. (2mks)
 10. State the function of the following parts of a poultry digestive system. (1mk)
 - Crop.....
 - Gizzard.....
 11. State four ways of restraining cattle during routine management. (2mks)
 12. Name four microbial activities that take place in the rumen. (2mks)
 13. State four effects of external parasites that are harmful to livestock. (2mks)
 14. Give the uses of the following farm tools and equipment. (2mks)
 - i) Strip cup.....
 - ii) Milk strainer.....
 - iii) Hacksaw.....
 - iv) Cross-cut saw.....
 15. Give four reasons for swarming in bees. (2mks)
 16. Mention two qualities of a good vaccine. (1mk)

SECTION B: (20 MARKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

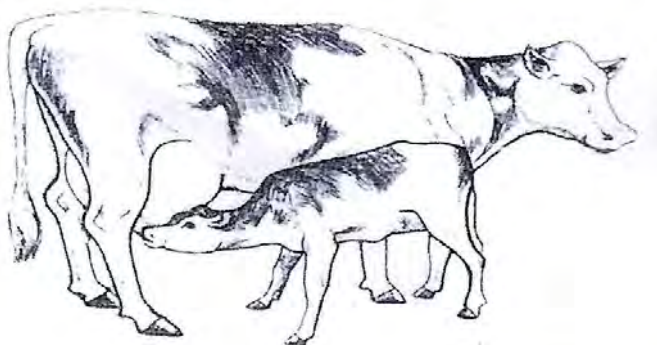
17. Below is a diagram illustrating an instrument used in cattle breeding.



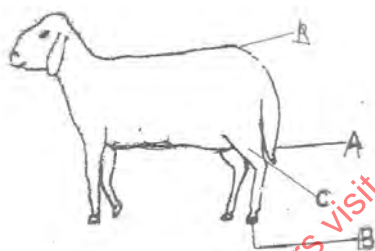
- a) Identify the instrument..... (1mk)
- b) State the role of the instrument in cattle breeding. (1mk)

- c) When would it be appropriate to serve a cow after the onset of heat? (1mk)
- d) Apart from the method in which the above instrument is used, name two other methods of serving a cow. (2mks)

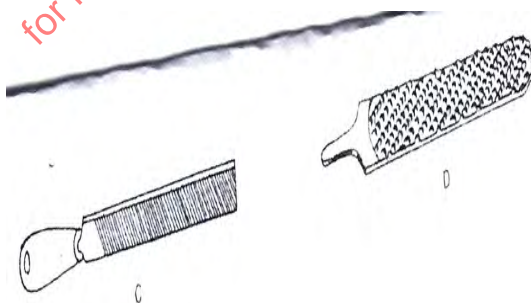
18. The diagram illustrated below shows a practice in dairy farming. Study it carefully and answer the questions that follow.



- a) Identify the practice illustrated above. (1mk)
 - b) State three advantages of carrying out the practice illustrated above. (3mks)
 - c) Name the other practice that can be done to achieve the same. (1mk)
19. The diagram below shows a sheep with parts labeled A B C and D.



- a) Name operations carried out in part A and B. (2mk)
 - b) State the importance of the operation carried out in part A and B. (2mk)
 - c) Name the parts labeled C and D. (2mk)
20. Diagrams C and D below illustrates some workshop tools. Study them carefully and answer the questions that follow.



- a) Identify the tools C and D. (2mk)
- b) State the use of each tool illustrated above. (2mk)

SECTION C (60 MARKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION

21. a) Explain the factors considered when selecting breeding stock. (10mks)
- b) Describe Newcastle under the following sub headings
- i) Causal organism. (1mk)
 - ii) Signs of attack (7mks)
 - iii) Control measures (2mks)
22. a) Describe the management of one day old chick in a brooder until they are eight weeks old. (9mks)
- b) Describe the uses of fences. (6mks)
- c) Describe the parts of a disc plough. (5mks)
23. a) Compare the functional differences between a petrol engine and a diesel tractor engine. (8mks)
- b) Explain six ways in which ticks can be controlled on a livestock farm. (6mks)
- c) State six features of a calf pen. (6mks)

MERU CENTRAL CLUSTER EXAMINATION (2020)

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AGRICULTURE

PAPER 1

DECEMBER, 2020

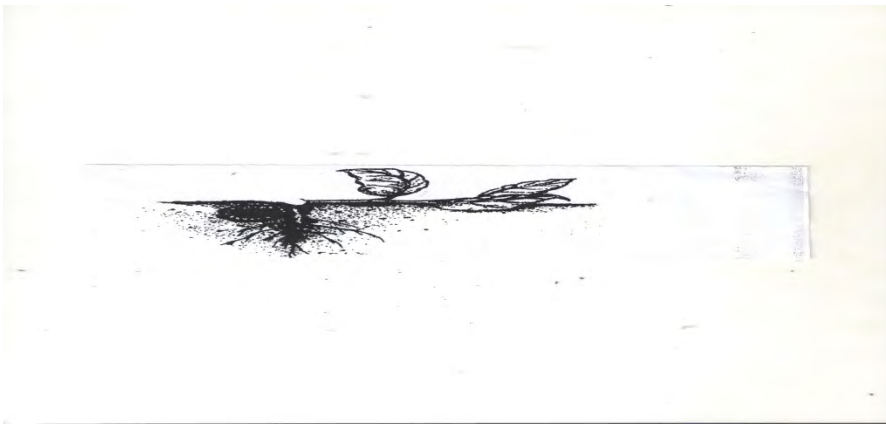
SECTION A (30 MRKS)

1. Differentiate between olericulture and pomoculture as used in crop production . (1mrk)
2. Give four method of farming (2mrks)
3. Give two examples for each of the following types of cost incurred in broiler production .
- a) Variable cost (2marks)
 - b) fixed cost (2 marks)
4. Give **four** advantages of crop rotation . (2mrk)
5. State **four** factors that that should be considered when classifying crop pest (2mrks)
6. a) Name **four** pieces of information contained in a land title deed (2mks)
- b) Name **two** forms of collective land tenure system. (1mk)
7. List **four** post – harvest practices that are carried out in maize production (2mks)
8. What is opportunity cost? (1/2 mk)
9. Outline **four** ways of improving lab our productivity (2mks)
10. State **four** factors that can affect the efficiency of pesticides (2mks)
11. List **four** sites on which agro forestry trees can be established on a farm. (2mks)
12. Give **four** advantages of using seeds over vegetative materials. (2 mks)
13. State **four** features that should be considered when choosing water pipes for use on the farm. (2 mks)
14. Give **three** reasons why primary cultivation should be done early before the onset of the rains(1 ½mks)
15. Give **four** suitable characteristics of plants used as green manure. (2mks)

SECTION B: (20 marks)

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

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



- a) Identify the pest illustrated above (1mk)
- b) Explain **two** ways of controlling the pest (2mks)
- c) State **two** ways in which the pest economically important. (2mks)
17. a) Distinguish between straight and compound fertilizers. (1mk)
- b) A farmer applied 200kg of C A N (20%N) per hectare maize crop. Calculate the amount of Nitrogen applied on his 5 hectare crop. Show your working (4mks)

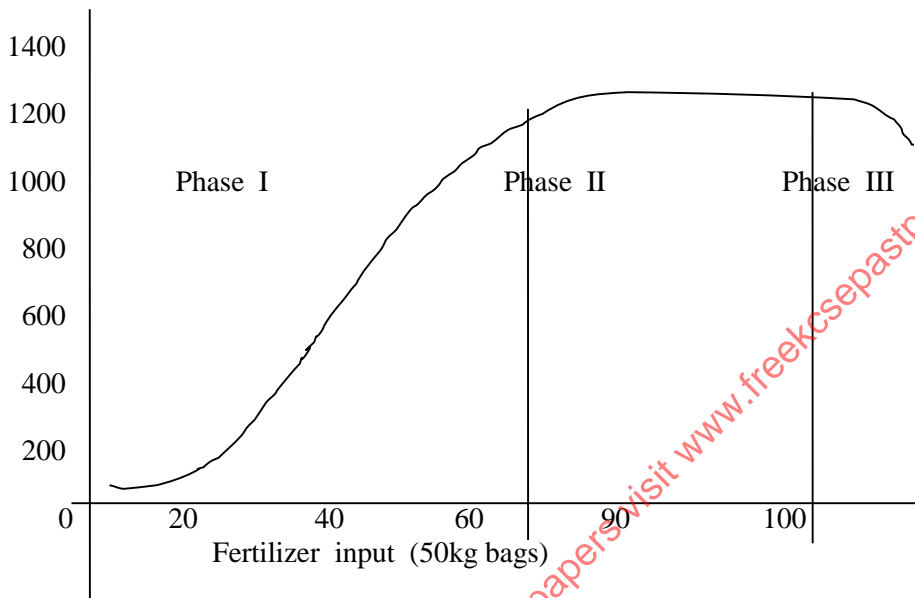
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18 The diagram below shows a maize cob attacked by a certain disease. Study it and then answer the following questions.



- a) Identify the disease (1 Mk)
- b) Name **two** causal organism of the disease. (1 Mk)
- c) State **three** cultural methods of controlling the disease. (3 Mks)

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



- a) State the law illustrated by the graph (2mk)
- b) Explain how each additional unit of fertilizer input relates to the total output of maize in **phases II and III**. (2 mks)
- Phase II (1mk)
- Phase III (1mk)
- c) State the importance of the law identified in (I) above to the maize farmer (1mk)

SECTION C (40MARKS)

Answer any two questions in this section in the spaces provided

- 20 a) Explain **five** factors that should be considered in farm planning. (10 Mks)
- b) Describe transplanting of tomatoes seedling. (10 Mks)
- 21 Describe paddy 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)
- b) Explain how each of the properties of rainfall and light influence crop production. (8 Mks)
 - i) Rainfall
 - ii) Light
- c) Explain **four** factors that should be considered when sitting a vegetable nursery. (4mks)
- 22 a) Describe **six** advantages of rotational grazing (6mrks)

- b) Explain **eight** ways in which soil fertility can be maintained (8mrks)
 c) Explain **six** reasons for pruning coffee. (6mrks)

MERU CENTRAL CLUSTER EXAMINATION (2020)
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AGRICULTURE
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DECEMBER, 2020

SECTION A
ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

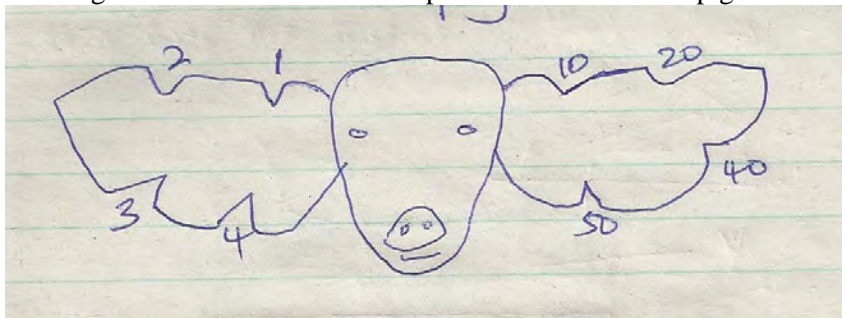
1. Name **two** dairy goat breeds found in Kenya. (1 Mk)
2. Outline **four** reasons for maintaining farm tools and equipment in good condition. (2 Mks)
3. Outline **two** predisposing factors of foot rot. (1 Mk)
4. Name **two** rules that should be observed when milking. (1 Mks)
5. Outline **two** duties of a worker bee in a colony of bees. (1 Mks)
6. Study the table below fill in the blanks to show the term used to refer to parturition and young ones of the following animals. (2 Mks)

Type of animal	Act of parturition	Term to refer to the young one
Cattle	Calving	Calf
Goats
pig

7. State **four** harmful effects of ticks. (2 Mks)
8. State **four** desirable factors to consider when siting a fish pond. (2 Mks)
9. Name the most appropriate tools used in the following operations
 - a) Removing metal chippings in file (1mrk)
 - b) Cutting wood along grains (1mrk).
 - c) Branding (1mrks)
10. State **four** characteristic of Boran cattle (2mrks)..
11. Name **three** methods of out breeding in livestock production (1 ½ marks)
12. What do you understand by the following terms as used In animal production .
 - a) Caponisation (1mrk)
 - b) Bullock (1mrk)
 - c. Epistasis (1mrk)
- 13 State four control measures of a liver fluke in livestock. (2 marks)
- 14 What is “dry cow therapy” in dairy cattle management? (1/2 mark)
- 15 State four causes of stress in poultry. (2 marks)
16. Distinguish between mothering ability and prolificacy as used in livestock breeding. (1mks)
- 17 Name two sources of protein for livestock nutrition. (2 marks)
- 18 State four signs of parturition shown by a in calf cow. (2 marks)

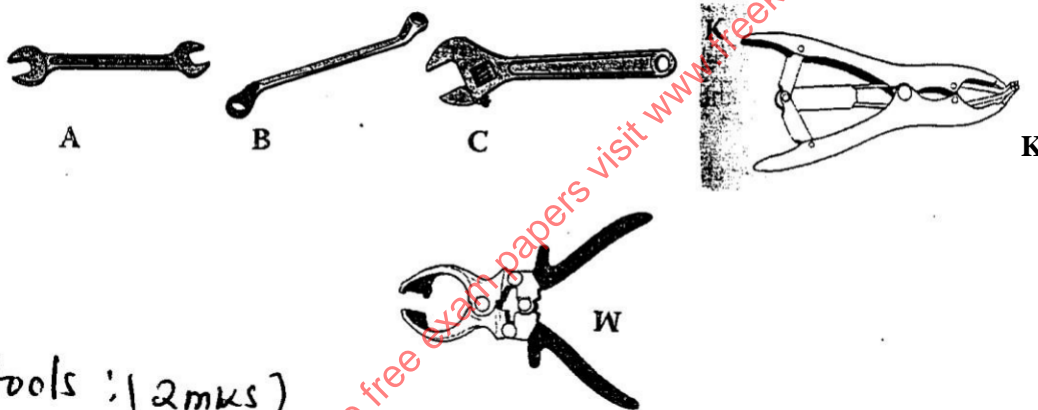
SECTION B (20 mks)
ANSWER ALL THE QUESTIONS IN THIS SECTION

19 The diagram below shows a certain practice carried out on pig



- a) Identify the practice illustrated above (1mrk)
- b) Draw another illustration depicting pig number 37 (1mrk)
- c) Name the tool used to carry out the practice illustrated above (1mrk).
- d) State two other method of identifying piglet (2mrks)

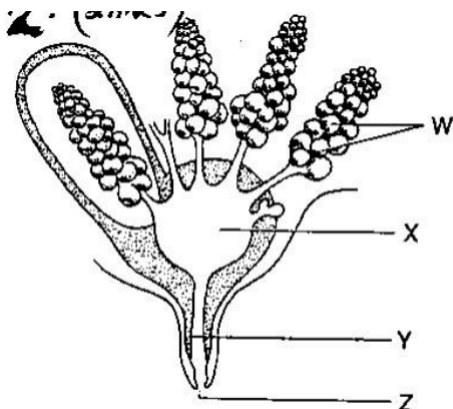
20. The diagrams below show some farm tools. study them and answer the question that follow.



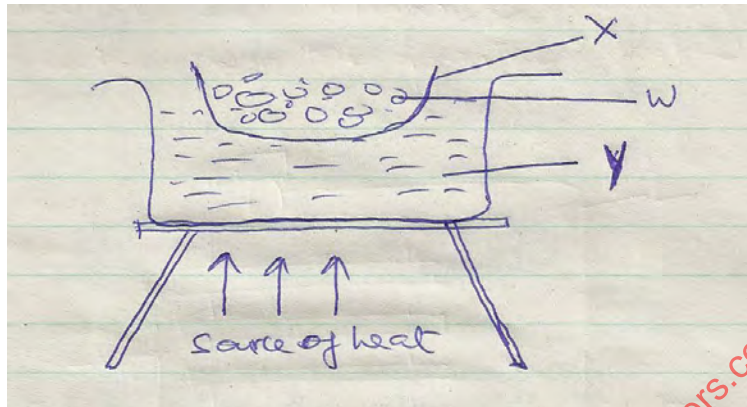
tools : (2mks)

- a) Name the tools. (2 marks)
- b) State the functional differences between tools K and W. (1 mark)
- c) What advantage does C have over A and B? (1 mark)
- d) State **one** common maintenance practice carried out in tool C and W. (1 mark)

21 a) The diagram below shows a structure of the udder of a cow. Name the part labeled W, X, Y and Z. (2 marks)



- b) What is milk let down (1 mrk)
- c) Name **two** hormones that control milk let down in dairy cow. (2 mrk)
22. Below is an illustration of a method of extracting honey from combs .Study the diagram and answer the question that follow .



- a) Identify the above method of extracting honey (1mrk)
- b) Give a reason why container x should not be heated directly (1mrk)
- c) Name the parts labeled w and y (2mrks)
- d) Besides the above method ,State one other method of extracting honey (1mrk)

SECTION C (40 MKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION

- 23 a) State **five** reasons why bees swarm. (5 marks)
- b) Describe **five** maintenance practices carried out on a tractor battery. (5 marks)
- c) Explain **five** factors considered when culling livestock. (5 Mks)
- d. Explain **five** mechanical methods of controlling ticks. (5 mks)
- 24 a) Describe the process of egg formation in chicken up to the point of laying. (10 Mks)
- b) State the differences between four stroke cycle and two stroke cycle engine. (5 Mks)
- c) Describe the process of digestion in rumen. (5 Mks)
25. a) Describe trypanosomiasis disease under the following sub-headings.
- Causal organism (1 Mk)
 - Animal attacked (1 Mk)
 - Five** symptoms of attacked animals (5 Mks)
 - Three** control measures (3 Mks)
- b) Control **five** control measures for cannibalism (5 Mks)
- c) Explain **five** parts of a piggery unit (10mrks)

KAKAMEGA

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AGRICULTURE PAPER 1

2½ hours

SECTION A (30 MARKS)

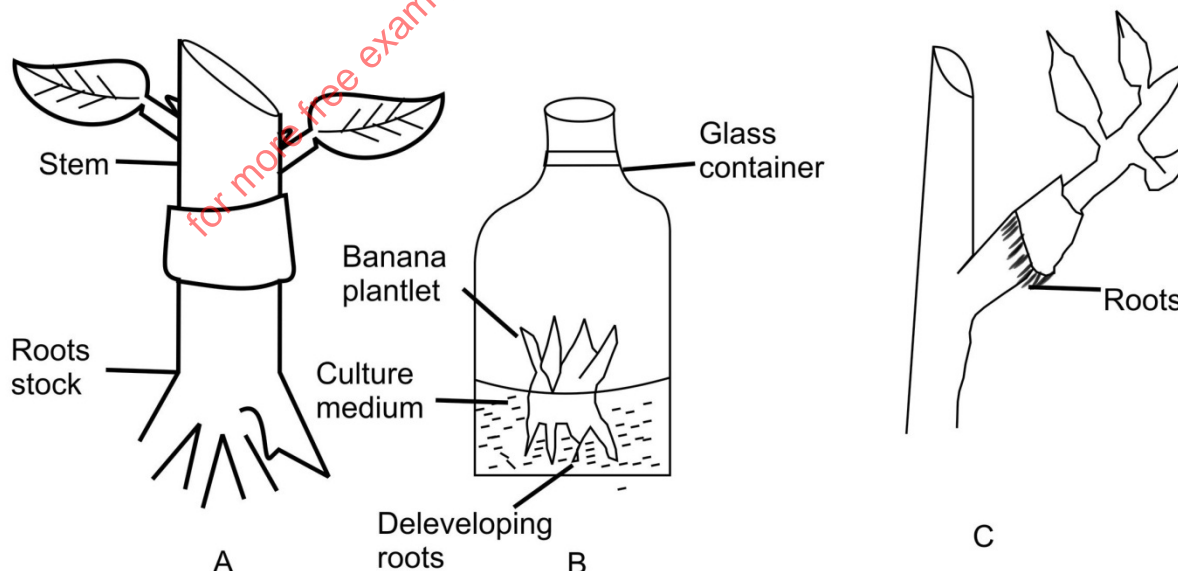
Answer all questions in this section in the spaces provided

1. Name four biotic factors affecting agriculture. (2mks)
2. State two systems of farming (1 mk)
3. Give four effects of excessive application of nitrogenous fertilisers to crop growth (2mks)
4. Under which type of farm records should each of the following items be entered. (2mks)
 - i) Date of ploughing
 - ii) Milk yield
 - iii) Date cow was served
 - iv) Vaccination against newcastle disease
5. (a) Define production function (1mk)
(b) Name three types of production functions (3mks)
6. Give four ways in which land consolidation helps to improve land management. (2mks)
7. State three objectives of land redistribution (3 Marks)
8. State four advantages of drip irrigation in a farm (2 mks)
9. State three agricultural practices that lead to water pollution (1½ mks)
10. State TWO distinctive features of a monopolistic market (1mks)
11. State three functions of Agricultural Development Corporation (ADC) (1½ mks)
12. Give four benefits of minimum tillage in crop production (2 mks)
13. State four factors determining the number of times secondary cultivation is done (2 mks)
14. State four disadvantages of zero grazing. (2 mks)
15. Give four factors a farmer should consider when designing a crop rotation program (2mks)

SECTION B (20 MARKS)

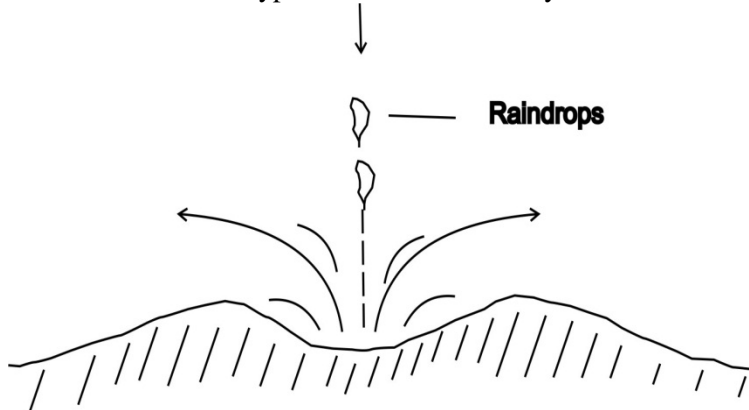
ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACE PROVIDED

16. Study the methods of crop propagation illustrated below then answer the questions that follows:



- a) Identify the methods of crop propagation illustrated above (3 mks)
 - b) Give one condition under which method A above is carried out. (1 mk)
 - c) State two disadvantages of using stem cuttings for planting (2 mks)
17. a). Define soil sampling (1 mk)
b) Outline the procedure of soil sampling (3mks)

18. A plot of land measures 6.6m long by 3.6m wide. This plot is prepared for planting cabbages at a spacing of 60cm by 60cm. The outermost rows start at 30 cm from the edges all around the plot. Showing your working, calculate:
- (i) The number of the rows falling on the width side of the plot. (2mks)
 - (ii) The number of cabbage seedlings that should be planted on the plot (3mks)
19. The diagram below illustrates a type of soil erosion. Study it and answer the questions that follow.



- (i) Identify the type of soil erosion (1mk)
- (ii) Explain how this type of erosion takes place (3 mks)
- (iii) State one way of controlling the above erosion (1mk)

SECTION C (40 MARKS)

Answer any **TWO** questions from this section

20. (a) Explain management practices carried out on an agroforestry tree nursery. (8 mks)
 (b) Describe seven cultural methods of weed control. (7 mks)
 (c) Describe five factors that determine the quality of farm yard manure (FYM) (5mks)
21. Describe the production of dry beans under the following sub-headings: -
- (a) Varieties (3mks)
 - (b) Selection and preparation of planting materials (3 mks)
 - (c) Land preparation and planting (5mks)
 - (d) Pests and disease control (4mks)
 - (e) Harvesting (5mks)
22. (a) Describe the functions of Agricultural Marketing (8mks)
 (b) (i) Use the following information to prepare a balance sheet for Mr. Wanyama's farm for year ended 31st December 2010 (10mks)

	Kshs.
Cash in hand	20,000
Cash at bank	66,000
Buildings	50,000
Disc ploughs	16,000
Debtors	16,000
Working tools	12,000
Bank overdraft	24,000
Creditors	20,000
Loan	50,000
Cattle	40,000
Land	80,000

- (ii) State two benefits of the balance sheet to Mr. Wanyama. (2 mks)

SECTION A (30 MARKS)

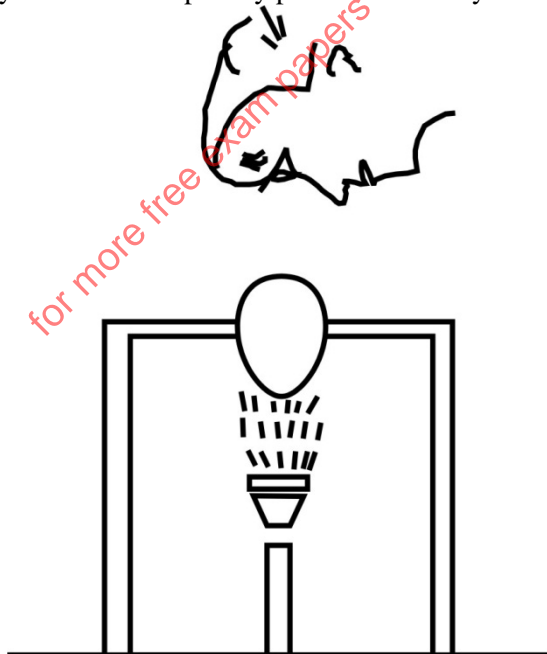
Answer all questions in spaces provided

1. Name three diseases that cause lameness in cattle (1½ mks)
2. Name four practices carried out in the crush (2 mks)
3. a) Give three dual purpose cattle breeds (1½ mks)
- b) Give three terms used to describe the following: - (1½ mks)
 - i) Mature male pig
 - ii) Sterilised birds
 - iii) Mature female goat
4. State four reasons for identifying farm animals (2mks)
5. State three functions of feed additives (1½mks)
6. Name the fourth compartment of the stomach of a ruminant and state three of its functions (2mks)
7. State four factors that determine the quality of honey (2 mks)
8. Give four categories of livestock diseases (2 mks)
9. State three control measures of contagious abortion (Brucellosis) (1½ mks)
10. Name three tools used for plumbing (1½ mks)
11. State four maintenance practices carried out on an ox-drawn plough (2 mks)
12. List four sources of farm's power which are environmental friendly (2 mks)
13. State four functions of the lubricating system in a tractor (2mks)
14. State two conditions under which a farmer would prefer to use an ox-cart instead of a tractor-drawn trailer (2mks)
15. State four qualities considered when selecting a heifer for dairy purposes (2mks)
16. Give one role of a damp proof course in the foundation of a farm building (1mk)

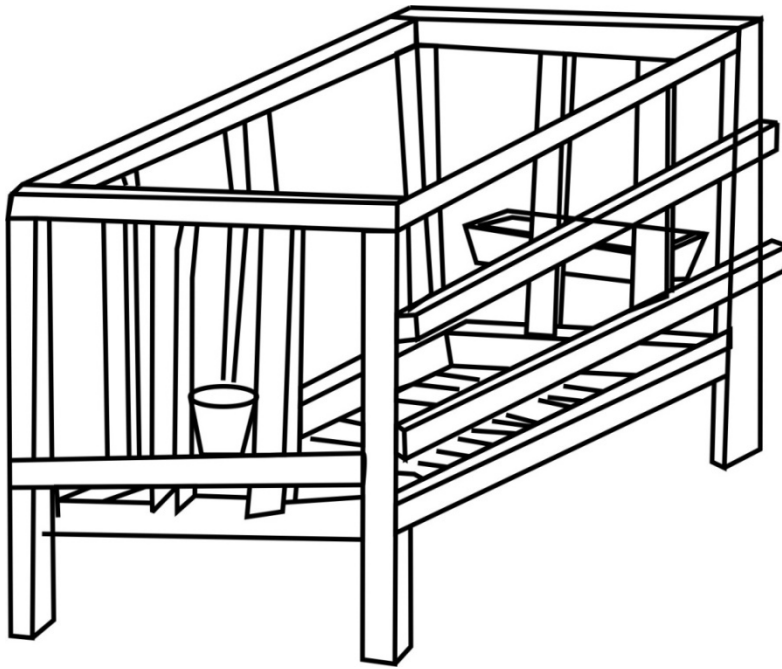
SECTION B (20MARKS)

ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

17. Below in an activity carried out in poultry production. Study it carefully then answer the questions that follow.



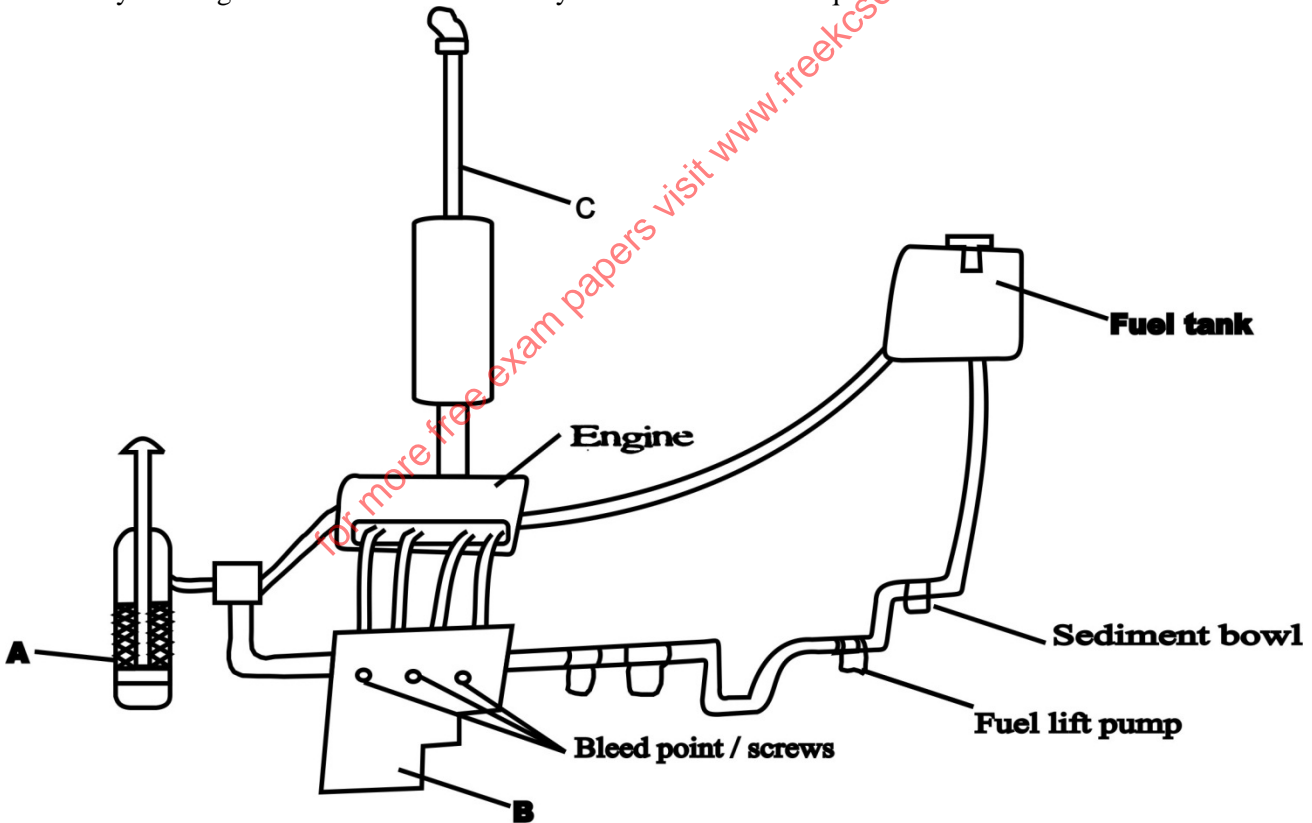
- a) Identify the practice being carried out..... (1 mk)
- b) State three defects that can be detected by this practice (3 mks)
- c) State two disadvantages of artificial incubation. (2 mks)



Use the above diagram of a calf pen to answer the questions that follow.

- a) How high should the calf pen be raised from the ground (1mk)
- b) Give any two reasons why calves are housed singly (2mks)
- c) Why should the calf pen be near the milking parlour? (2mks)

19. Study the diagram below of a diesel fuel system then answer the questions that follow.



- a) Identify the parts labelled (3 mks)
 - b) State three maintenance practices carried out on the system (3 mks)
20. Outline the procedure of proper milking technique (3 mks)

SECTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS FROM THE SECTION

- 21. a) Outline five signs of heat in a cow (5 mks)
- b) Outline five causes of stress in poultry and describe their control (10mks)
- c) Using Pearson's square compute a ration with 20% DCP from oats which contains 10% DCP and simsim seedcake containing 60% DCP. (show your working) (5mks)
- 22. a) Outline the daily maintenance practices that should be carried out on a farm tractor (8 mks)
- b) Outline twelve general symptoms of endoparasite attack in livestock. (12 mks)
- 20. Describe management practices of sheep from birth to mating (20mks)

LANET CLUSTER JOINT EXAMINATION (LANJET) -2020

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AGRICULTURE

PAPER 1

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SECTION A (30 MARKS)

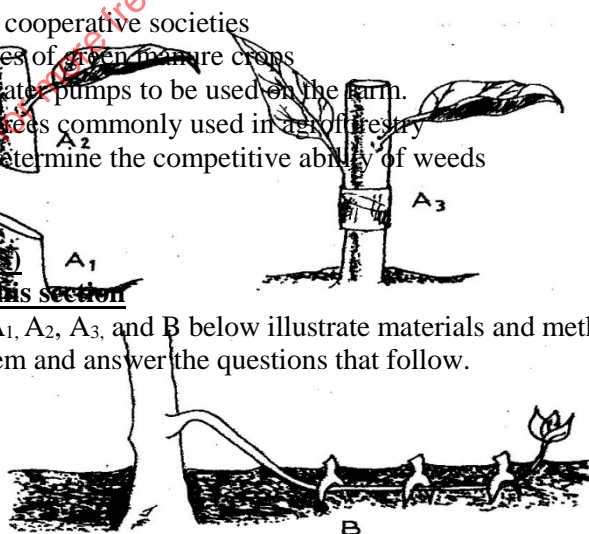
Answer all questions from this section

- 1. What do the following terms mean? (1 ½ mks)
 - a) Gross domestic product (G.D.P)
 - b) Gross national income (GNI)
 - c) Per capita income
- 2. a) What does the term opportunity cost in farming mean? (1mk)
- b) State two situations when opportunity cost is nil or zero (2mks)
- 3. List four advantages of individual owner tenure system (2mks)
- 4. State two ways to show how check dams reduce soils erosion (1mks)
- 5. Identify four soil constituents. (2mk)
- 6. Mention four ways of classifying herbicides (2mks)
- 7. a) List two ways of controlling smut disease in the field. (1mk)
- b) Name any two pests that attack bean pods in the field (1mk)
- 8. What four factors should a farmer consider for effective control of pests in the field (2mks)
- 9. Mr. Wotsula Applied 150kg N.P.K 25:20:15 to his one hectare of groundnuts in his Kakamega farm. Calculate how many kilograms of each of the fertilizer element he applied. (3mks)
- 10. State five marketing functions (2 ½mks)
- 11. State five functions of cooperative societies (2½ mks)
- 12. List three characteristics of green manure crops (1 ½ mks)
- 13. Name three types of water pumps to be used on the farm. (1 ½ mks)
- 14. Name four species of trees commonly used in agroforestry (2mks)
- 15. List four factors that determine the competitive ability of weeds (2 mks)

SECTION B: (20 MARKS)

Answer all questions in this section

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



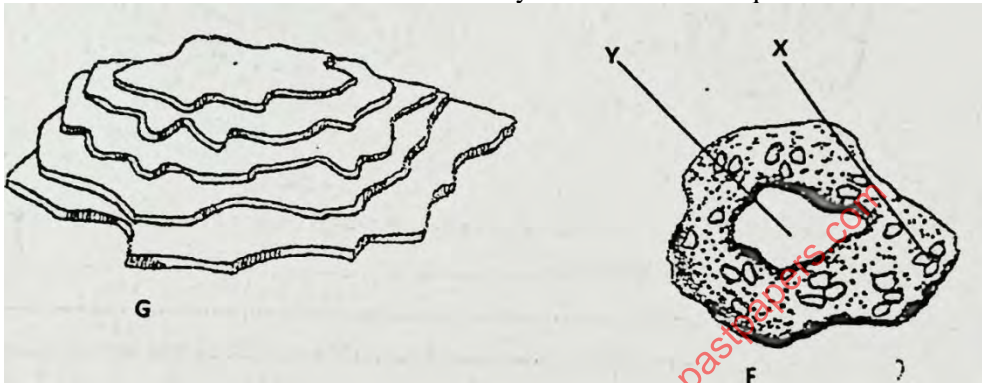
(a) Name the parts labeled A₁, and A₂

(2 mks)

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

(2 mks)

17. The diagram below illustrates some soil structures. Study it and answer the questions that follow.



a) Identify the soil structures F and G

(2mks)

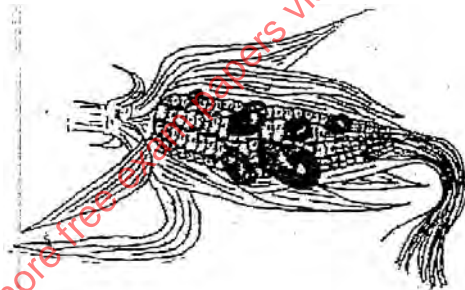
b) Name the parts labeled X and Y in diagram F

(1mk)

c) State two ways through which structure G influences crop production

(2mks)

18. Below is an illustration of a maize cob attacked by smut disease. Study it carefully and answer the questions that follow:



a) Beside what is visible on the maize cob, state two other symptoms of the disease

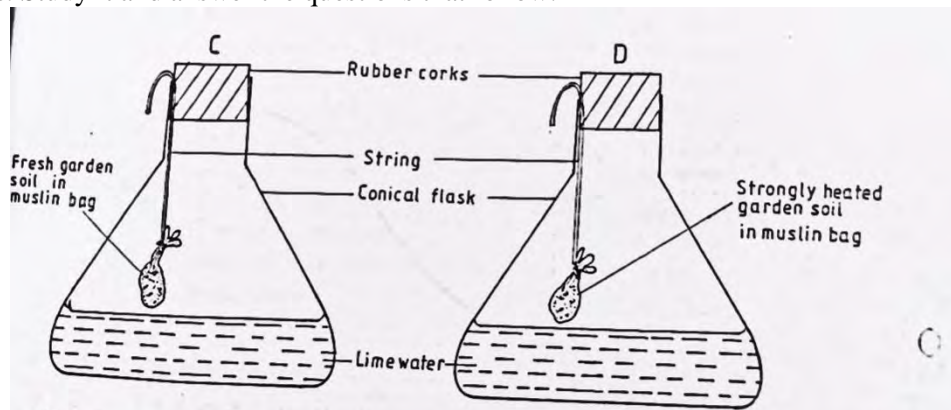
visible on the maize cob, state two other

(2mks)

b) State three control measures of the above disease.

(3mks)

19. The diagram below shows a set up used 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? (1mk)
- b) State one observation that was made in each of the flasks labelled C and D (2mks)
- c) Give a reason for your answer in (b) above (2mks)
- d) Apart from the aspect under the study above, state any other soil component that could be studied (1mk)

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SECTION C: (40 MARKS)

Answer any TWO questions from this section

20. The following table shows an illustration of production of maize (in tons) using various levels of inputs.

Units of variable input (Man hours)	Total output of maize (Tons)	Marginal Product	Average product
0	0		
1	6		
2	18		
3	33		
4	40		
5	45		
6	48		
7	48		
8	40		

- a) Work out the marginal product and average product and fill in the table (9mks)
- b) On the same graph paper, plot the graph showing total output, marginal product and average product against variable input (8mks)
- c) On the graph draw lines to show the following zones (3mks)
- i) Increasing return production function
 - ii) Decreasing return Production function
 - iii) Diminishing return production function
- 21 a) Outline five benefits of trees and shrubs to the economic wellbeing of Kenyans (5mks)
- b) Explain 7 ways on how farmers overcome risks and uncertainties in a farming business (7mks)
- c) Explain the factors that influence the type of irrigation to be used in a farm (8 mks)
- 22 a) State the principles involved in planning a crop rotation programme. (6mks)
- b) Discuss the production of maize under the following subheadingsMaize
- i) Seedbed preparation (2mks)
 - ii) Planting (2mks)
 - iii) Weed control (2mks)
 - iv) Field management practices (2mks)
 - v) Pests control (2mks)
 - vi) Disease control (2mks)
 - vii) Harvesting (2mks)

LANET CLUSTER JOINT EXAMINATION (LANJET) -2020

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AGRICULTURE

PAPER 2

DECEMBER, 2020

SECTION A: (30 MARKS)

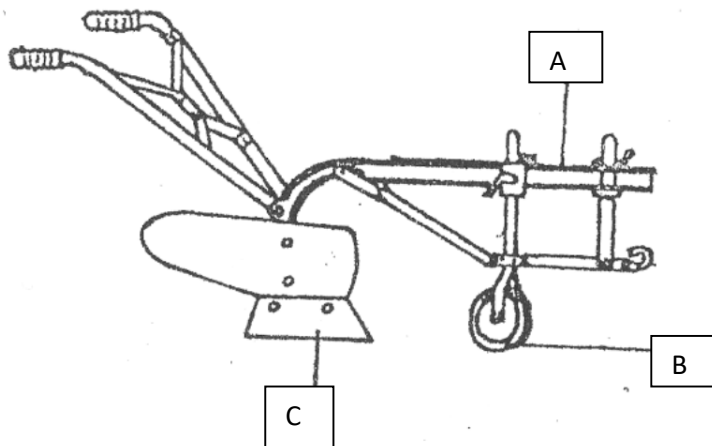
Answer all the questions from this section.

1. State the use of each of the following tools (1½mks)
 - (i) Strip cup:
 - (ii) Sickle:
 - (iii) Stock and die:
2. Name two reasons why rabbits hutches should be raised above the ground. (1mks)
3. Name two predisposing factors of coccidiosis,. (1mks)
4. Define the following terms as used in livestock production.
 - (i) Crutching (1mk)
 - (ii) Farrowing: (1mk)
5. Name the infective stage of the liver fluke in livestock. (1mk)
6. State four disadvantages of using human power instead of tractors as a source of power in a farm. (2mks)
7. Name two tractors drawn implements attached to the tractor at one- point hitch. (1mks)
8. Distinguish between pen mating and flock mating in poultry. (2mks)
9. Give two ways in which proper breeding and selection helps to control livestock diseases. (1mk)
10.
 - (a) Name two types of feed additives. (1mk)
 - (b) Give two reasons why it is important to include additives in commercial feeds. (1mk)
11.
 - (a) Name four pig breeds commonly reared in Kenya. (2mks)
 - (b) Name four characteristics of dairy cattle breeds. (2mks)
12. Outline four qualities of eggs used for incubation. (2mks)
13.
 - (a) Name two hormones that control milk let down in dairy cow. (1mk)
 - (b) State four factors that influence milk let – down. (2mks)
14. State four reasons why bees may swarm from a hive. (2mks)
15. Name three sources of water in the body of livestock. (1½mks)
16. Name four cattle diseases whose outbreak calls for quarantine. (2mks)
17. State two functions of ventilation in a pig house. (1mk)

SECTION B: (20MARKS)

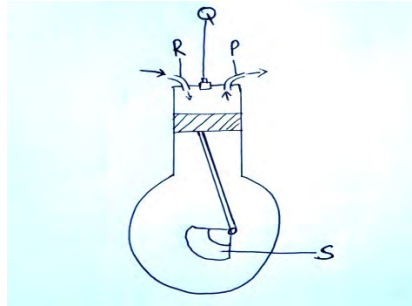
Answer all the questions from this section.

18. The diagram below shows a farm implement used by small scale farmers for several operations in the farm. Study it carefully and then answer the questions that follow.

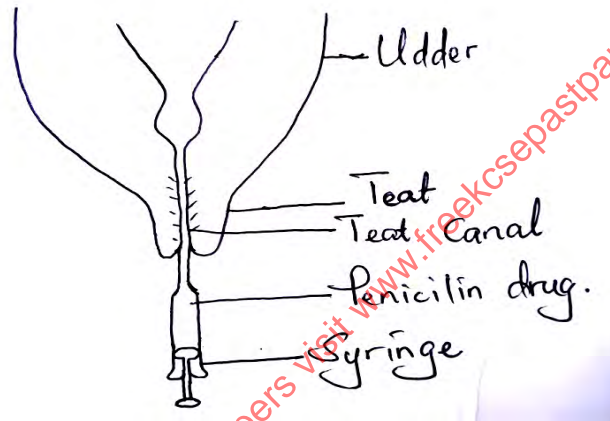


- (a) Identify the implement. (1mk)
- (b) State the function of the part labeled A, B and C. (3mks)
- (c) Apart from land preparation, state any other one operations that can be done using the above implement. (1mk)

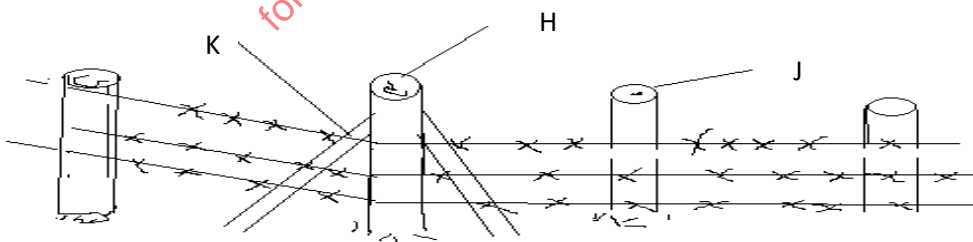
19. The illustration below shows an engine cylinder.



- (i) Identify the parts labeled P, Q, R and S (2mks)
 - (ii) Give the function of the part labeled Q above. (1mk)
 - (iii) Give two disadvantages of four-stroke engines. (2mks)
20. The activity illustrated below indicates a task undertaken in farm animals.



- (i) Name the above activity. (1mk)
 - (ii) State the importance of the above activity. (1mk)
 - (iii) Name the disease controlled by the above practice. (1mk)
 - (iv) Name two other diseases that only attack female cattle. (2mks)
21. Below is a diagram showing parts of a fence. Use it to answer the questions that follow.



- (a) Identify the type of fence above. (1mk)
- (b) Name the parts labeled H and J. (2mks)
- (c) What is the role of the part labeled K? (1mk)
- (d) On the diagram, draw a dropper in the right position. (1mk)

SECTION C: (40MARKS)

Answer any two questions from this section on the spaces provided after the last question.

22. (a) Discuss bloat under the following sub-headings.
- (i) Species of animals effected. (3mks)
 - (ii) Causes of the disease. (4mks)
 - (iii) Symptoms
 - (iv) Control. (2mks)
- (b) Discuss various types of tools required to construct a barbed wire fence. (5mks)
23. (a) Describe various cultural uses of livestock. (8mks)
- (b) Describe various livestock rearing practices. (12mks)
24. (a) State four functions of vitamins in livestock nutrition. (4mks)
- (b) Tabulate the differences between digestion in ruminants and non-ruminants. (6mks)
- (c) Discuss the components of the cooling system of a tractor. (10mks)

MOKASA 1 JOINT EXAMINATION

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AGRICULTURE

PAPER 1

SECTION A: (30 MARKS)

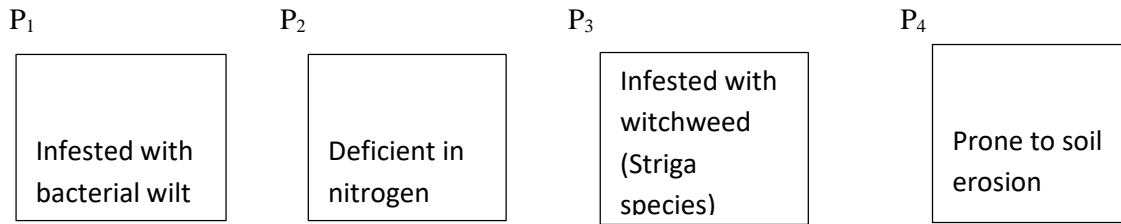
Answer ALL questions in the spaces provided.

1. Give **four** activities that may be undertaken in organic farming. (2 marks)
2. State **four** harmful effects of wind on crop production (2 marks)
3. Give the general name of chemicals used to control;
- a) Weeds (½ mark)
 - b) Leaf rust in coffee (½ mark)
4. State **four** practices that can be used to improve water logged clay soils (2 marks)
5. State **four** factors considered when selecting planting materials (2 marks)
6. Give **two** causes of blossom-end rot in tomatoes (1 mark)
7. Give **four** pieces of information contained in a land title deed. (2 marks)
8. Name **three** macro-nutrient elements whose deficiency symptom is chlorosis (1½ marks)
9. State **two** water treatment processes that take place in the coagulation and sedimentation tank. (1 mark)
10. State **four** reasons for pruning fruit crops (2 marks)
11. State **four** disadvantages of intercropping (2 marks)
12. Name **three** practices carried out to improve and maintain permanent pastures (1½ marks)
13. State **four** cultural practices of weed control in beans (2 marks)
14. State **four** advantages of timely harvesting of crops (2 marks)
15. List **three** tertiary operations that may be carried out in a seedbed (1½ marks)
16. Give **two** reasons for locating a nursery bed at a well sheltered place (1 mark)
17. List **four** disadvantages of using compost manure in crop production (2 marks)
18. Give **three** reasons why timely ploughing of the seedbed is important in crop production. (1½ marks)

SECTION B: (20 MARKS)

Answer ALL the questions in this section in the spaces provided

19. A farmer has four plots P₁, P₂, P₃ and P₄ as shown in the diagram below. Each of the plots has an agronomic problem as indicated.



- a) The farmer intends to grow maize, tomatoes, groundnuts and Rhodes grass. Indicate the crop the farmer should grow in each of the plots (2 marks)
- b) Outline the procedure of transplanting tree seedlings from polythene sleeves. (3 marks)
20. Study the illustration below and answer questions that follow.
- a) Identify the management practice indicated above. (1 mark)
- b) Give **three** problems that could arise if the above practice is not carried out. (3 marks)
21. The diagram below illustrates an experiment carried out by a Form one student on soil. Study it carefully and answer the questions that follow.
- a) State the aim of experiment above. (1 mark)
- b) Identify the soil samples in each of the funnels labeled Q and R (2 marks)
- c) Give **two** ways in which the soil structure of the sample labeled S above can be improved. (2 marks)
22. The diagram below illustrates a method of preparing compost manure. study it and answer the questions that follow.
- a) Identify the method illustrated above. (1 mark)
- b) By using arrows, indicate the direction of the materials from X to the field (2 marks)
- c) State **two** desirable factors considered when siting compost manure pit. (2 marks)

SECTION C: (40 MARKS)

Answer any **TWO** questions from this section in the answer sheets attached.

23. a) Describe the production of beans under the following sub-topics;
- (i) Planting (4 marks)
 - (ii) Field practices (4 marks)
 - (iii) Harvesting (4 marks)
- b) Outline **six** safety measures undertaken in the use of herbicides to minimize environmental pollution. (6 marks)
- c) Describe the precautions taken into account during harvesting of cotton (4 marks)
24. a) Explain **ten** farming practices carried out to control crop diseases (10 marks)
- b) Outline **six** steps followed in the adjudication of land (6 marks)
- c) Explain the **four** different methods of farming (4 marks)
25. a) Explain **ten** factors that can encourage soil erosion (10 marks)
- b) Explain **five** effects of liberalization of agricultural markets to farming in Kenya (10 marks)

MOKASA 1 JOINT EXAMINATION
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AGRICULTURE
PAPER 2

SECTION A (30 Marks)

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

- 1 State four ways of controlling tsetse flies. (2mks)
- 2 Name four breeds of dairy goats. (2mks)

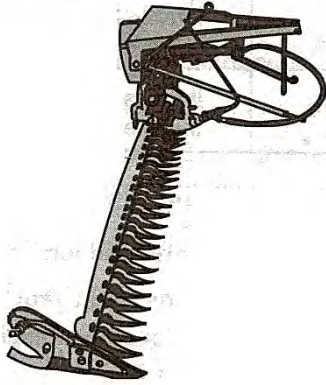
- 3 Give four characteristics of a good vaccine. (2mks)
- 4 State four advantages of outbreeding in livestock production. (2mks)
- 5 Give four factors that affect the quality of honey. (2mks)
- 6 Outline three functions of calcium in the body of a dairy cow. (1 ½ mks)
- 7 List four cattle diseases caused by virus. (2mks)
- 8 State the function of each of the following.
- (a) Plumb bob (½ mk)
 - (b) Drenching gun (½ mk)
 - (c) Garden trowel (½ mk)
 - (d) Pipe wrench (½ mk)
- 9 State two reasons for seasoning timber before use. (1mk)
- 10 State four reasons for culling a breeding boar. (2mks)
- 11 State four uses of lubrication system in a tractor. (2mks)
- 12 Give four observations on the behavior of chicks which would indicate that the temperature in the brooder is too high. (2mks)
- 13 State four ways of stimulating milk let – down in a dairy cow. (2mks)
- 14 State four measures that should be taken to control brucellosis in cattle. (2mks)
- 15 Give four conditions that would encourage hens to eat eggs in poultry production. (2mks)
- 16 State four advantages of a hedge fence in a farm. (2mks)

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SECTION B (20 Marks)

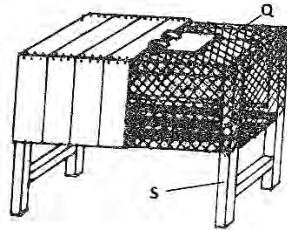
Answer all questions in the spaces provided

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



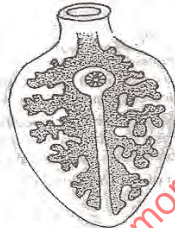
- (a) Identify the implement illustrated in the diagram. (1mk)
- (b) What is the method of power transmission for operating implements? (1mk)
- (c) State the use of the implement. (1mk)
- (d) Give two maintenance practices for implement A. (2mks)

18 Below is a diagram of a rabbit hutch. Use the diagram to answer the questions that follow.



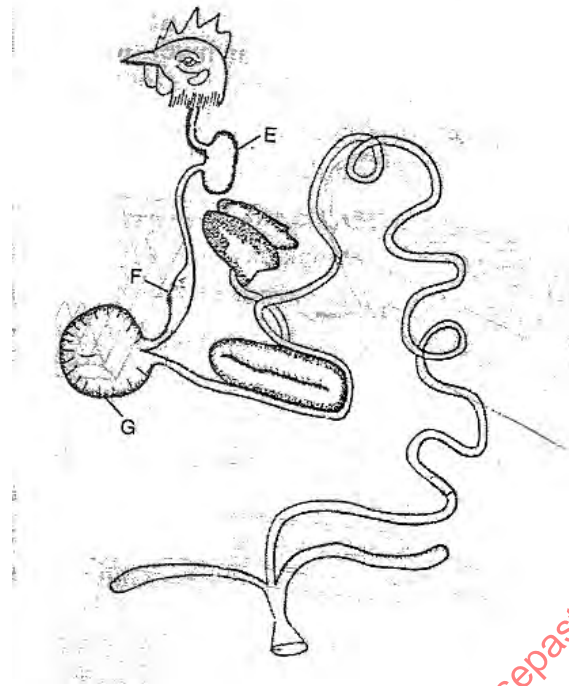
- (a) How should the materials used for constructing parts Q and S be treated to last long? (2mks)
- (b) Name the appropriate tools that should be used to cut the materials for constructing parts Q. (1mk)
- (c) Give two reasons for raising the rabbit hutch above the ground level. (1mk)

19 Below is an illustration of an internal parasite in livestock



- (a) Identify the parasite. (1mk)
- (b) Name one final host for the parasite. (1mk)
- (c) Name the intermediate host for the parasite. (1mk)
- (d) State two control measures of the parasite. (2mks)

- 20 The illustration below represents the digestive system of poultry. Study the illustration carefully and answer questions that follow.



- (a) Name the parts labeled **E**, **F** and **G**.
 (b) State two ways in which the part labeled **G** is adapted to its function. (2mks)

SECTION C (40 Marks)

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

- 21 (a) Name the strokes in a four stroke cycle engine and describe how each operates. (12mks)
 (b) Describe four physical characteristics that a poultry farmer would use to identify poor layers from a flock of hens. (8mks)
- 22 (a) Describe the disease milk fever under the following sub headings:
 (i) Animals affected (2mks)
 (ii) Symptoms (5mks)
 (iii) Control measures (3mks)
 b) Describe five calf management practices carried out immediately after parturition. (5mks)
 c) Outline five qualities of eggs for marketing. (5mks)
- 23 a) State and explain five harmful effects of parasites in livestock. (10mks)
 b) Describe any five parts and functions of a Zero grazing unit. (10mks)

SECTION A (30 MARKS)

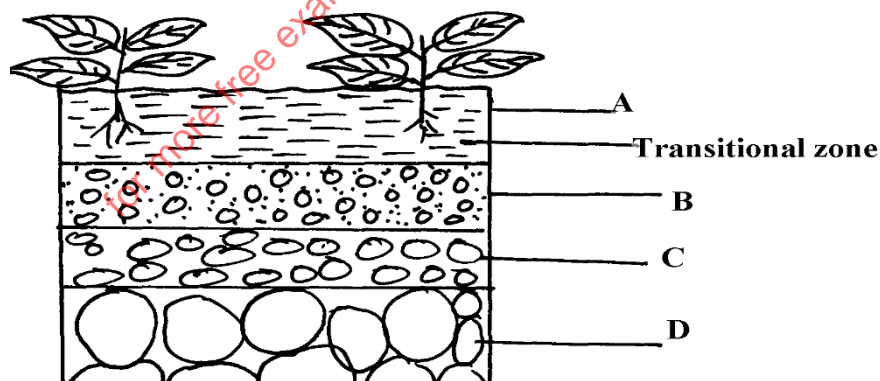
Answer all questions on this section in the spaces provided

1. What are the **three** aspects of light that are important to a farmer? (1½ marks)
2. Outline **three** ways of preparing materials before sowing (1½ marks)
3. What does the term '**close season**' mean in crop production? (1 mark)
4. State **four** importance of sub soiling as a tertiary operation (2 marks)
5. List **four** advantages of timely planting (2 marks)
6. State **two** practices done during hardening-off of seedlings in a nursery bed (1 mark)
7. State **four** factors that determine the spacing of beans (2 marks)
8. List down **three** effects of excess nitrogen to plants (1½ marks)
9. State the functions of the following chemicals as used in water treatment. (2 marks)
 - i) Chlorine
 - ii) Aluminium sulphate
10. What is the difference between pumping and piping of water in the farm? (2 marks)
11. Give **three** agricultural practices which lead to water pollution (1½ marks)
12. Name **four** indicators of well-decomposed manure (2 marks)
13. Give **four** means of propagation which make weeds have a high competitive ability over crops (2 marks)
14. Give the form in which the following elements are absorbed by crops (1 mark)
 - i) Sulphur
 - ii) Nitrogen
15. State **four** reasons why irrigation is carried out in Kenya (2 marks)
16. State **four** advantages of rotational grazing (2 marks)
17. List down **four** pieces of information contained in a field operations record (2 marks)
18. Differentiate between **hybrid** and **composite** seeds as used in maize production (1 mark)

Section B (20 MARKS)

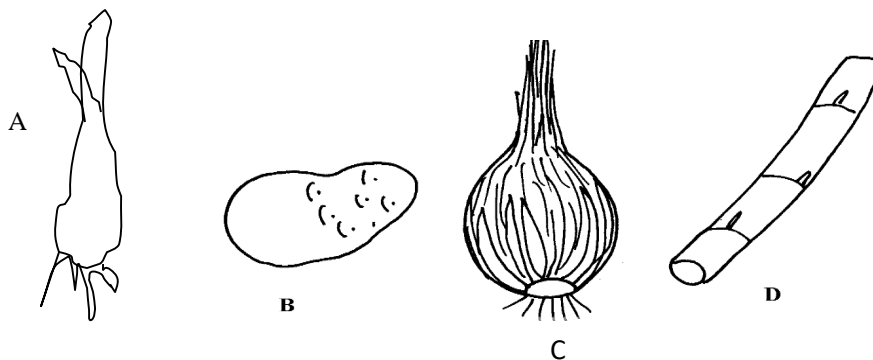
Answer all questions in this section in the spaces provided

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

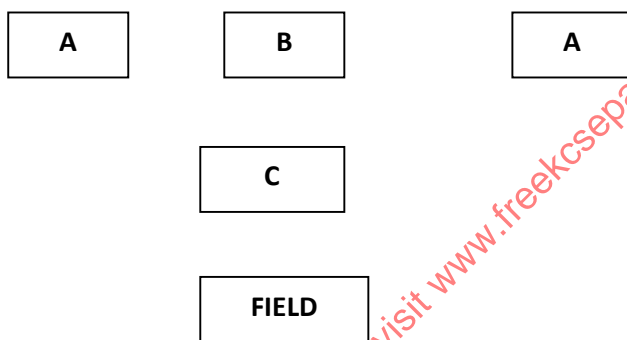


- a) State **two** merits of horizon A (2 marks)
- b) State **two** distinct features of horizon B (2 marks)
- c) What does the term **transitional zone** refer to in soil profile (1 mark)

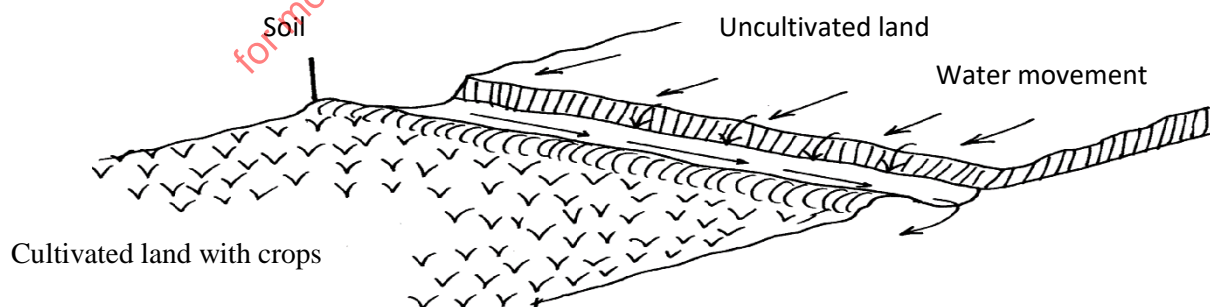
20. Below are diagrams showing vegetative materials used for propagation.



- Name the propagation materials A, B, C, D (2 marks)
 - What is the term used for inducing **B** to start germinating? (1 mark)
 - State **two** advantages of vegetative propagation on crop production (2 marks)
21. The illustration below shows a heap system of making compost manure. Study it and answer the questions that follow.



- By use of arrows indicate on the diagram above how the following material should be transferred from one heap to another till the manure is applied in the field (1 mark)
 - How long does the material take to be ready for application in the field as manure? (1 mark)
 - Give a reason for turning the material in the heap regularly (1 mark)
 - Give **two** reasons why it is necessary to sprinkle water on the heap (2 marks)
22. Below is a diagram showing soil erosion control method



- a) Identify the structure used to control soil erosion (1mark)
- b) What is the function of the structure shown in the diagram above (1 mark)
- c) State **three** effects if water was allowed into the cultivated land (3 marks)

Section C (40 MARKS)

Answer any two Questions in the space provided after question 22

- 23. a) Describe production of maize under the following sub-headings;
 - i) Maize varieties (2 marks)
 - ii) Planting (4 marks)
 - iii) Pest and pest control (4marks)
 - iv) Harvesting and storage (2 marks)
- b) Outline the various problems faced by nomadic pastoralists (8 marks)
- 24. a) Explain five advantages of crop rotation (5 marks)
- b) Explain **five** advantages of grass-legume pasture over pure grass pasture (5 marks)
- c) Outline the process followed in land adjudication (6 marks)
- d) State **four** benefits of a farmer having land title deed (4 marks)
- 25. a) Describe the siting and establishment of a crop nursery
 - i) Siting crop nursery (5 marks)
 - ii) Establishment (5 marks)
- b) Describe the various cultural methods of controlling pests in crops (10 marks)

LAINNAKU I JOINT EVALUATION 2020

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AGRICULTURE

SECTION A (30 MARKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

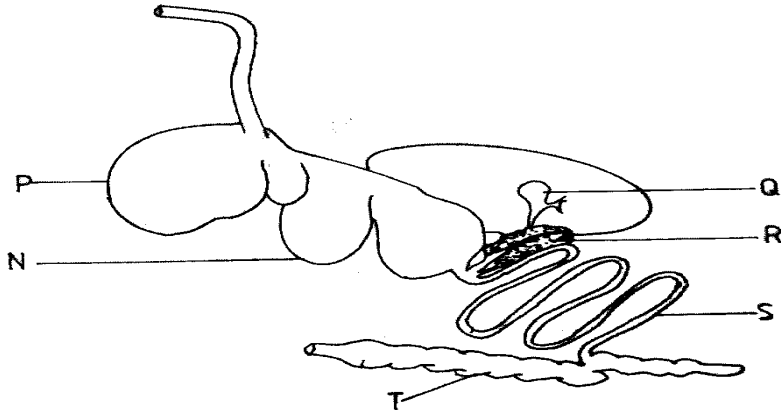
- 1. Give **four** disadvantages of using thatch when constructing a farm building (2marks)
- 2. (a) List **four** predisposing factors of livestock diseases. (2marks)
- (b) Distinguish between **isolation** and **quarantine** in livestock health. (2marks)
- (c) Name the intermediate and final host of the tapeworm.
 - i) Intermediate..... (1/2marks)
 - ii) Final..... (1/2marks)
- 3. State **two** sources of water to livestock body. (1marks)
- 4. List **three** tick borne diseases (1 1/2 marks)
- 5. Give **four** uses of protein in an animal's body (2marks)
- 6. State **four** observation that are likely to be made during egg candling. (2marks)
- 7. State **three** reasons for proper care and maintenance of farm tools and equipment (1 1/2marks)
- 8. Give the functional difference between a rip saw and a tenon saw. (1marks)
- 9. State **two** sources of carbohydrates for animal use (1marks)
- 10. List **two** poultry diseases caused by viruses. (1marks)
- 11. Give the role of the following hormones in milk production (1marks)
 - i) Oxytocin
 - ii) Adrenalin.....
- 12. List **two** distinguishing external characteristics of California breed of rabbit. (1marks)
- 13. What is dry matter as used in livestock nutrition (1marks)
- 14. a) Differentiate between a roughage and a concentrate feed in animal nutrition. (1marks)
- b) State **four** desirable qualities of a good livestock ration. (2marks)
- 15. Name **three** types of poultry rearing systems (1 1/2 marks)
- 16. Give **two** importance of hoof trimming as a management practice in livestock rearing (1marks)

17. List **four** harmful effects of external parasites in livestock. (2marks)
 18. Name **three** dairy goats kept in Kenya. (1½ marks)
 19. Give **three** structural requirements for a good grain store. (1½ marks)

(SECTION B (20 MARKS)

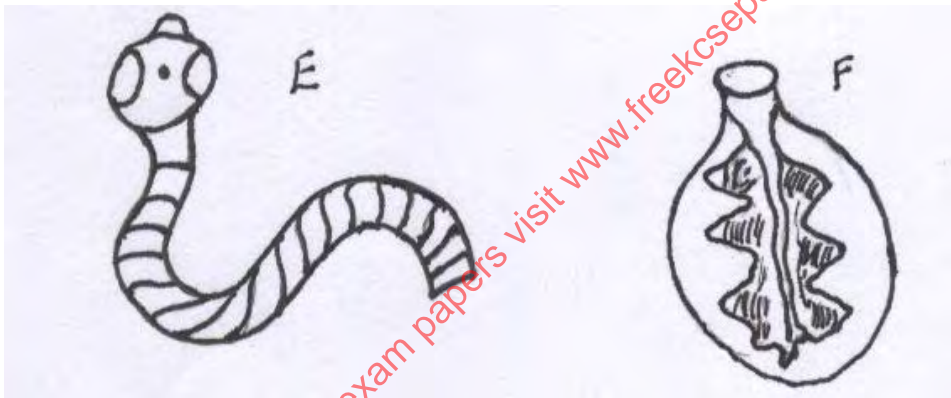
Answer all the questions in this section in the spaces provided

20. The diagram below shows the digestive system. Study it and answer the questions that follow.

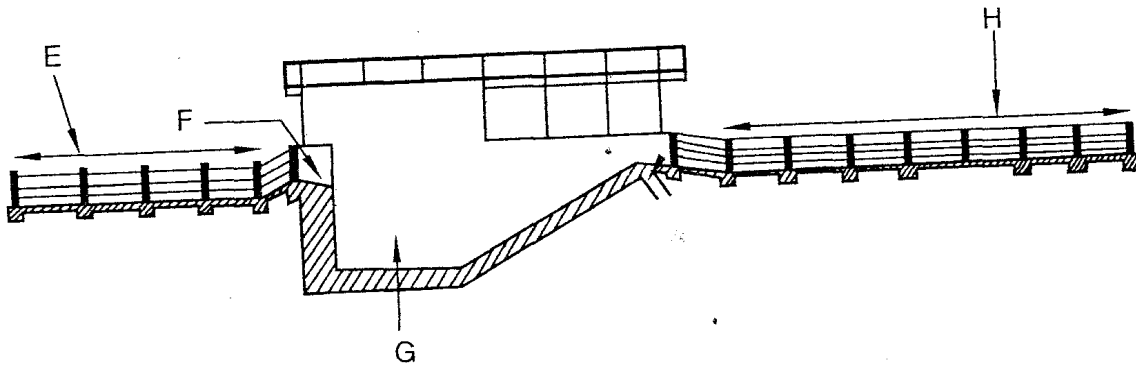


- a). Name the parts labelled N and P. (2 mark)
 b). State **one** function of the part labeled S, (1 mark)
 c). Give **one** enzyme produced by each of the parts labeled R and S. (1 mark)
 d). Name the type of livestock that have such a digestive system (1 mark)

21. The diagrams E and F below shows livestock parasites



- (a) Identify parasite labeled F (1marks)
 (b) Name the organ in which **each** parasite is commonly found (2marks)
 (c) Name the intermediate host of the parasite labeled F (1marks)
 (d) Give a non- chemical control measure of the parasite labeled F in livestock production. (1marks)
22. (a) The following farm structure is used in livestock management practice. Use it to answer the questions that follow.



- a) Identify the structure (1mark)
 b) Label the parts named E to H (2marks)
 c) What is the use of the parts labeled E and H (1mark)

23. The following diagrams show animals with deficiency symptoms of some minerals. Study the diagrams carefully and answer the questions that follow.



- (a) State the nutrients deficient in the diet of each animal shown above. (2marks)
 (b) Name the disorder whose symptoms are shown by the animal labeled G above. (1 mark)
 (c) Other than the diseases named in (b) above give other nutritional disorders (2mark)

SECTION C (40 MARKS)

Answer any two questions in this section in the spaces provided after question 26.

24. (a) Give the reasons why natural method of calf rearing is rear in dairy production . (5marks)
 (b) Mention **five** causes of stress in poultry (5marks)
 (c) Give importance of keeping livestock healthy (5 marks)
 (d) Give four signs of parturition in cow (5marks)
25. (a) Explain **five** causes of livestock diseases (5 marks)
 (b) State **five** methods of controlling egg eating in a flock of layers (5 marks)
 (c) Give reasons why indigenous cattle are well adapted to arid areas (5marks)
 (d) State the factors that affect milk composition (5marks)
26. (a) Describe the structural qualities of a good calf pen. (8 marks)
 b) Explain the essentials of clean milk production (12 marks)

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TRIAL TWO - NAIROBI

443/1

AGRICULTURE

PAPER 1

SECTION A (30MKS)

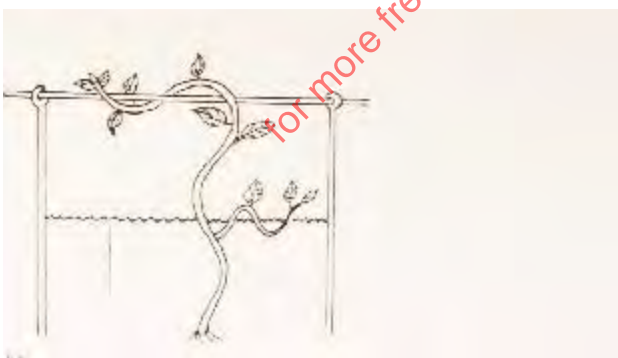
Answer all the questions

- e) Name three diseases that attack cabbages. (1 1/2 mks)
- f) List four factors that will lower demand of a commodity. (2mks)
- g) Give four reasons for seed selection in crop production. (2mks)
- h) Give four reasons why a well-drained soil is suitable for millet production. (2mks)
- i) State three conditions that would necessitate irrigation. (1 1/2 mks)
- j) Highlight four harmful effects of weeds (2mks)
- k) Name a method of breaking seed dormancy in
3 Calliandra (2mks)
4 Rice.
- l) Give four benefits of processing certificate of land ownership (title deed). (2mks)
- m) How can labour productivity be improved in the farm? (2mks)
- n) State four activities that a farmer should carry out on a storage facility before storing farm produce. (2mks)
- o) Explain the following terms as used in fertilizer chemistry. (2mks)
- e) Fertilizer grade
- f) Fertilizer ratio
- p) Give four climatic factors that influence crop production and distribution. (2mks)
- q) Give two ways in which land consolidation helps to improve farm management. (3mks)
- r) State four uses of organic mulch in crop production. (2mks)
- s) Define the following terms as used in crop production. (3mks)
- a) Staking
- b) Hardening off
- c) Organic farming

SECTION B (20 MKS)

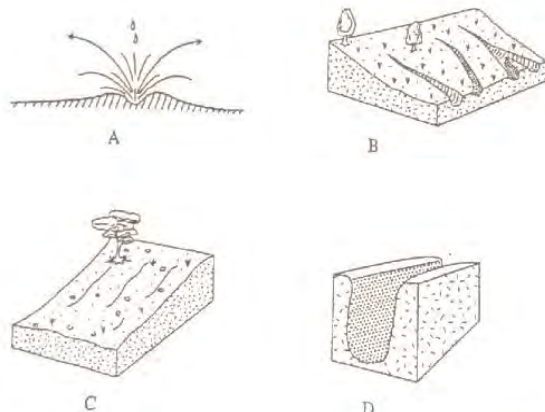
Answer all questions

- t) The diagram below illustrates a field management practice. Study it carefully and answer the questions that follow.



- a) (i) Identify the field practice (1mk)
(ii) Name one type of crop trained using the above method. (1mks)
(iii) Give two reasons for carrying out the practice. (2mks)

- u) The illustration below indicates types of soil erosion that takes place on cultivated farm land. Study them and then answer the following questions.



4. Identify the type of erosion represented by each of the illustrations A,B,C and D (2mks)
 5. Name two factors that may reduce the impact of the type of erosion represented by A (2mks)
 v) Study the diagram of a weed below and answer the questions that follow



- i) Identify the weed (1mk)
 ii) Classify the weed by its lifecycle (1mk)
 iii) Give two reasons why the weed is difficult to control (2mks)
 iv) List three disadvantages of using herbicides to control weed (3mks)
- w) Prepare a profit and loss account for Anestar Victory farm for year ended 31st Dec 2018 from the information given below (6mks)
- d) Wages 6,000
 - e) Bought animal feeds 9000
 - f) Sold a heifer 8500
 - g) Bought a fungicide 4000
 - h) Sold cabbages 5900
 - i) Sold bullocks 7000
 - j) Bought computer 9000
 - k) Closing valuation 9600
 - l) Open valuation 3000

SECTION C (40 MARKS)

Answer any two questions from this section

- x) (a) Describe the process of transplanting a cabbage seedling. (5mks)
- (b) State and explain five factors that influence supply of cabbages in a market. (10mks)
- (c) Describe ways in which farmers overcome risks and uncertainties in farming. (5mks)
- 21.(a) State and explain how soil loses fertility (12mks)
- d) Outline four problems associated with use of manure in agricultural production (4mks)
- e) Give four characteristics of plants suitable for green manure (4mks)
- (a) Explain **six** advantages of mulching in crop production. (6 marks)
- (b) Explain **six** factors that should be considered when setting a nursery bed. (6 marks)
- (c) Describe various biotic factors influencing agricultural production. (8 marks)

TRIAL TWO - NAIROBI

443/2

AGRICULTURE

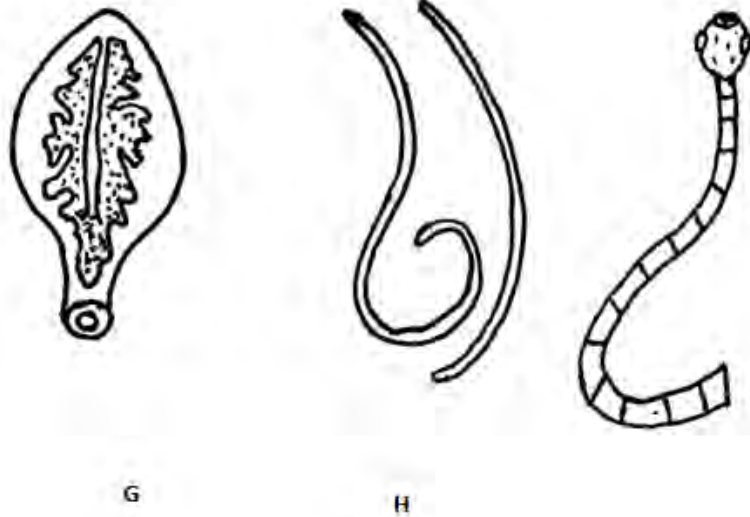
PAPER 2

Section A (30MKS)

- 1. Name **four** methods of dehorning in cattle (2mks)
- 2. State the function of the following parts of a poultry digestive system (1mk)
Crop-.....
Gizzard-.....
- 3. State **two** functions of protein in animal nutrition (1mk)
- 4. Name four bacterial diseases (2mks)
- 5. Name two meat breeds of goat. (1mks)
- 6. Give four characteristics of a large white breed of pig (2mk)
- 7. State **four** ways of restraining cattle during routine management (2mks)
- 8. What is meant by the following terms as used in livestock health?
(a) Incubation period (1mk)
(b) Mortality rate (1mk)
- 9. Define the following terms as used in livestock rearing (2mks)
(a) Pullet
(b) Cockrel.....
(c) Piglet.....
(d). Sow.....
- 10. What is creep feeding? (1mk)
- 11. State two meat breeds of sheep (2mks)
- 12. Give microbial activities that takes place in the rumen.. (2mks)
- 13. (a) State 2 functions of cobalt in animal's body (1mks)
(b) Name two classes of feedstuff (1mks)
- 14. Give 4 mechanical method of tick control (2mks)
- 15. State structural requirements of a pig house (2mks)
- 16. State 4 disadvantages of using spray race over cattle dip (2mks)
- 17. Give the uses of the following farm tools and equipments (2mks)
i) Strip cup.....
ii) Milk strainer
iii) Hacksaw.....
iv) Centre punch

Section B 20mks

18. Diagram **G,H** and **J** illustrates some livestock parasites



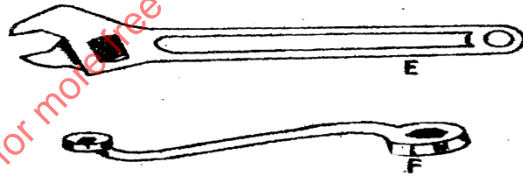
- (a) Identify parasites **G,H** and **J** (3 mk)
- (b) Name the parts of the host body where parasites **G** and **J** are found (1mk)
- (c) Name the intermediate host of parasites **G** and **J** (2mk)
- (d) Outline **four** symptoms of attack in livestock by parasite **J** (2mks)

19. The diagram below illustrates a hoof of a sheep. Study it carefully and answer the questions that follow



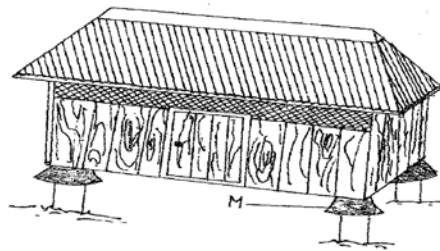
- (a) Name the routine management practice that should be carried out on the hoof illustrated above (1mk)
- (b) State **two** reasons for carrying out the management practice in (a) above (2mks)

20. Study the diagrams of workshop tools shown below



- (a) Identify the tools labeled **E** and **F** (2mk)
- (b) What functional advantage does tool **E** have over tool **F**? (1mk)

(c) Below is a diagram of a farm structure for storing grains. Study it carefully and answer the question that follows



- (i) Identify the farm structure illustrated above (1mk)
- (ii) State the function of the part labeled M (1mk)
- (iii) State **two** maintenance practices that should be carried out on the farm structure illustrated above in readiness for grain storage (2mks)
21. Give four functions of a worker bee (2mks)

Section C(40mks)

Attempt any two questions

22. (a) (i) Describe seven signs of ill-health in livestock. (7mks)
 (ii) Outline five uses of a crush in livestock rearing (5mks)
- (b) (i) Name the causal organism of coccidiosis in poultry. (1mk)
 (ii) Apart from poultry name two other animals affected by the disease above. (2mks)
 (iii) Give five symptoms of the disease in poultry. (5mks)
23. (a) Describe the procedure of processing honey wax (8mks)
 (b) Outline FOUR harmful effects of lice in livestock (4mks)
 (c) State five advantages of the top bar beehive (5mks)
 (d). Give three signs of heat in pigs (3mks)
24. (a) Explain six advantages of artificial insemination (A.I) in livestock breeding. (6mks)
 (b) Give 5 categories of farm tools and equipment (5mks)
 (c) Outline five characteristics corriedale breed of sheep (5mks)
 (d) discuss 4 practices carried out on fish before preservations. (4mks)

KCNM EXAMINATION 2020

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AGRICULTURE

PAPER 1

DECEMBER 2020

SECTION A (30MKS)

Answer all questions in this section on spaces provided.

1. Name two field management that are carried out to obtain optimum plant population in a crop field (1mk)
2. Give two factors which characterize small scale farming (1mk)
3. Give one examples of each of the following categories of water pipes
 a) Metal pipes (½mk)
 b) Horse pipes (½mk)
4. Name three forms of horticulture practiced in Kenya (1½mk)
5. State four disadvantages of growing one type of crop on piece of land continuously (2mks)
6. A form four student planted maize for her KCSE agriculture project. She use a spacing of 75cmx25cm; her plot was 4 x3m.
 (i) What does 75cm stand for in this statement (1mk)
 (ii) Calculate the plant population showing your working (3mks)
7. Name two pest with piercing and sucking mouth parts (1mks)
8. a) Explain the form changing the cycle in coffee growing (1mk)
 b) State two importance of tissue culture in crop production (1mk)
- 9 Why are leguminous plants preferred for green manure (1mk)
- 10 State **four** biological methods of soil erosion control (2mks)
11. Name **two** types of labour records (1mk)
12. State **four** physical methods of pest control (1mk)
13. Outline **three** reasons of top dressing a pasture land (1½ mks)

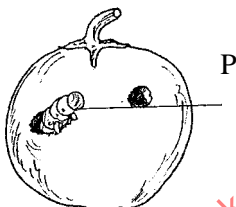
14. State **three** symptoms of bacterial attack in crop production (1½ mks)
15. State **four** factors which affect the quality of a silage. (2mks)
16. State four pasture management practices done to enhance yields per unit area. (2mrks)
17. Name two macro-nutrients which classified as:
 - (a) Fertilizer elements. (1mrk)
 - (b) Liming elements. (1mrk)
18. Give three ways by which pruning helps to control disease in crops. (1½mrks)
19. State four ways in which weeds are excellently adapted to the environment. (2mrks)
20. State **four** factors that affect the rooting of cuttings in tea and sugar cane. (2 mks)
21. Outline **four** factors that determine the choice of a weed control measure to use in a crop field. (2mks)

22. List **four** types of terraces (2mks)
23. State **two** ways by which organic mulches help to conserve moisture in the soil. (2mks)
24. Differentiate between under-sowing and over-sowing as used in forage Production. (2mks)

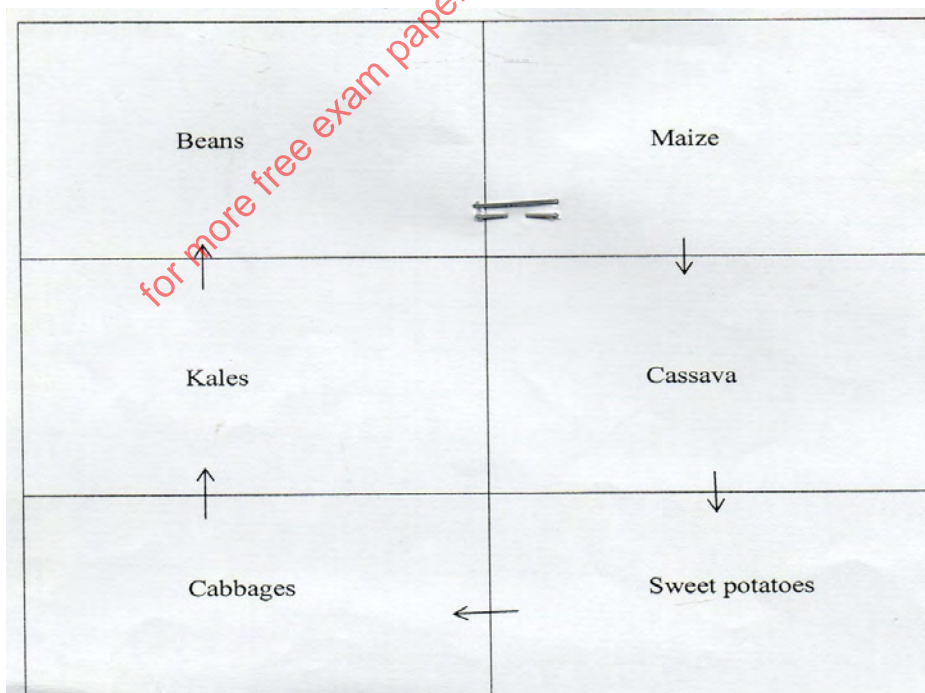
SECTION B (20 MARKS)

Answer All the questions in this section in the spaces provided

25. The diagram below shows a tomato fruit affected by a pest. Study it carefully then answer the questions that follow.



- (a) Identify the pest labeled **P** (1mk)
 - (b) State **one** method used to control the pest. (1mk)
 - (c) State any **two** factors to consider when selecting tomato fruits for marketing. (2mks)
-
26. The illustration below shows a cropping programme.

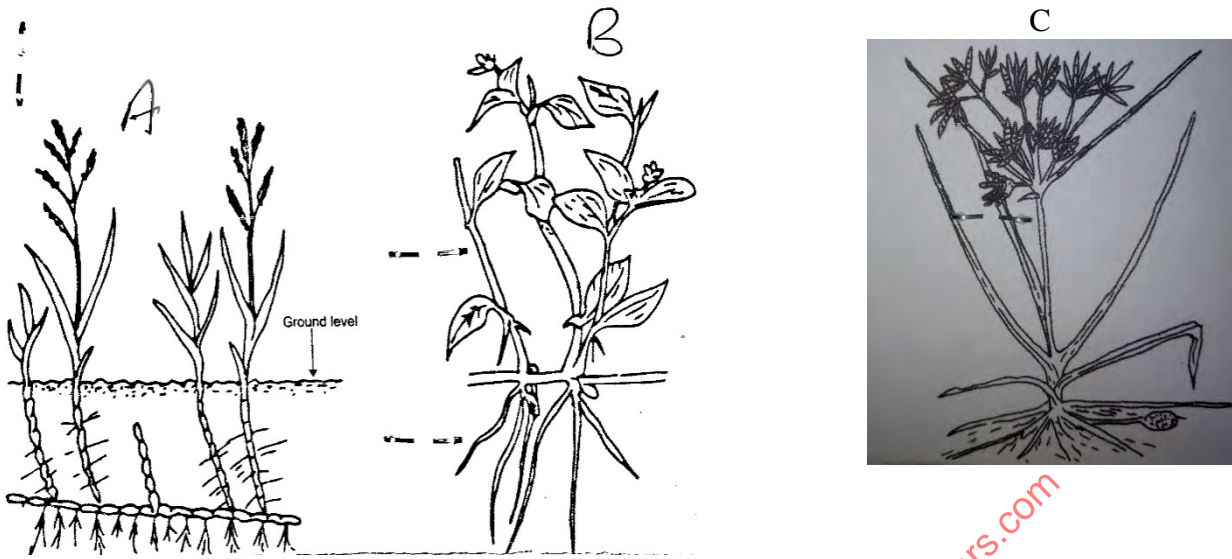


- a) Identify the cropping programme (1mk)
- b) Giving a reason identify one mistake the farmer made when designing the above programme

- c) State two ways the above programme help in control of weeds
 d) State two advantages of this programme

(1mk)
 (2mks)
 (1mk)

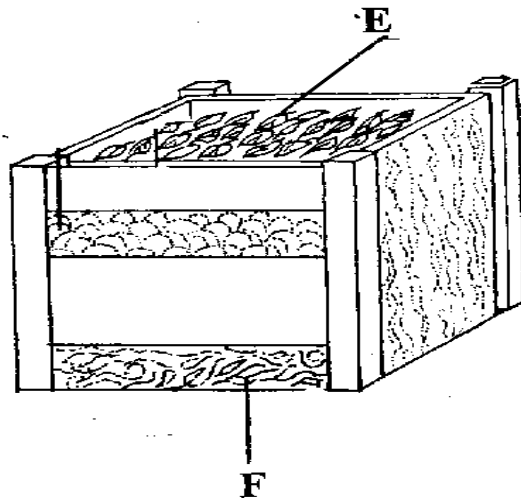
27. Below are diagrams of common weeds found in a crop field, study them carefully and answer questions that follow.



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- a) Identify the weeds (3mks)
 Weed A
 Weed B
 Weed C
- b) State one reason why weed A is difficult to control (1mk)
- c) State one economic use of weed B (1mk)

28. The diagram below represents a method of manure preparation. Study it carefully and answer the questions that follow.



- (a) prepared. (1mrk)
- (b) Name the parts labeled E and F. (2mrks)
- (c) Give four disadvantages of manures. (4mrks)

SECTION C (40 MARKS)

ANSWER ONLY TWO QUESTIONS FROM THIS SECTION)

29. a) Describe five ways in which a grass cover help to conserve soil (5mks)
- b) Describe maize production under following sub-headings. (3mks)
- i) Land preparation (6mks)
- ii) Planting (6mks)
- iii) Field management practices (6mks)
30. (a) Describe the procedure followed when collecting a soil sample from the field for testing in the laboratory (5mks)
- (b) Describe the benefits of using certified seeds in crop production. (5mrks)
- (c) Describe the safety precautions a farmer should take when using herbicides. (10mks)
31. (a) State **six** advantages of a mixed pasture. (6mks)
- (b) Explain **five** roles of trees in soil and water conservation. (10 mks)
- (c) State **four** conditions that should be observed when harvesting to ensure that cotton picked is of high quality. (4 mks)

KCNM EXAMINATION 2020

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AGRICULTURE

PAPER 2

DECEMBER 2020

SECTION A (30MKS)

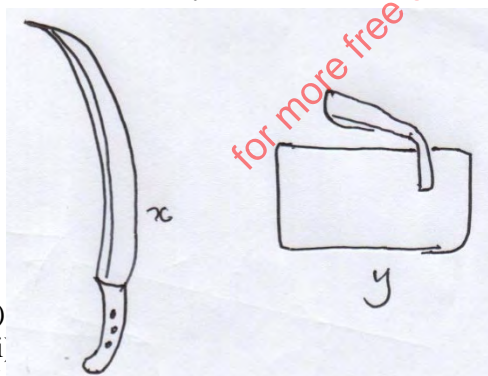
Answer all questions in this section on spaces provided.

1. State four non-chemical method used to control ticks (2mks)
2. Give four characteristics of a good fish pond (2mks)
3. Mention four physical characteristics of exotic beef cattle breeds (2mks)
4. Give four features of calf pen that help to control calf diseases (2mks)
5. Write two physical characteristics of saddle back breed in pigs (1mk)
6. State two characteristics of heavy poultry breeds (1mk)
7. List two maintenance practices of a wood chisel (1mk)
8. State four sources of power in the farm (2mks)
9. State four characteristics of livestock roughage feedstuff (2mks)
10. List two equipments used in handling cattle during agricultural exhibition (1mk)
11. State the gestation period of the livestock animals given below
 - (a) rabbit (½mk)
 - (b) goat (½mk)
12. Why is it necessary to provide grit to birds? (1mk)
13. State four good qualities of honey. (2mks)
14. State two causes of soft shell in eggs. (1mk)
15. Name three methods of livestock selection. (1 ½ mks)
16. Name a tool used for tightening barbed wires during fencing. (1mk)
17. a) Name the causal organism of fowl typhoid. (1/2 mk)
b) List three signs on a carcass which shows that an animal died of anthrax. (1 ½ mks)
18. Differentiate between cropping and harvesting in fish farming. (1 mark)
19. Name four methods of dehorning in cattle rearing. (2 marks)
20. State four structural requirements of a calf pen. (2 marks)
21. Give four characteristics of a good site for a bee hive. (2 marks)

SECTION B (20 MARKS)

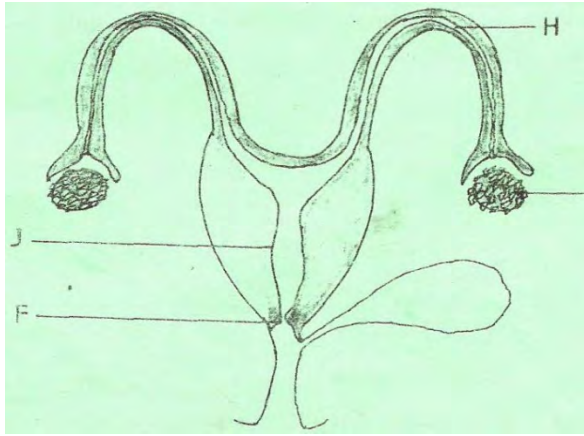
Answer All the questions in this section in the spaces provided

22. a) i) Identify the tools below (1mk)

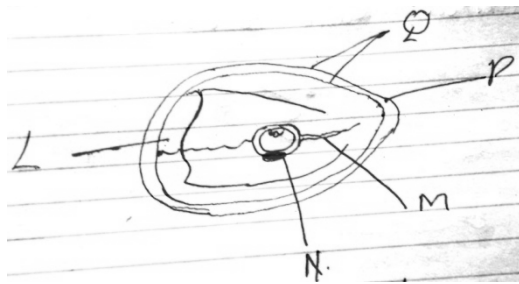


- ii) (2mks)
iii) (2mks)
b) Name the following tools (2mks)
i) Trocar
ii) Hand drill.....
iii) Leadstick
iv) Mallet

23. The diagram bellows shows the reproductive system of a cow. Study it and answer the questions that follow



- i) Name the parts labeled J , F and H. (3mks)
 - ii) State one function of each of the parts labeled J and H. (2mk)
 - iii) Name three reproductive hormones in dairy cattle (3mks)
24. Study the diagram of an egg below and answer the question that follow.



- i) Name the parts labeled N,Q and P. (3mks)
- ii) State the function of the parts labeled M and L. (2mks)

SECTION C (40 MARKS)

ANSWER ONLY TWO QUESTIONS FROM THIS SECTION)

25. a) Describe mastitis disease under the following sub-headings
 - i) Causal organism (1mk)
 - ii) Disease pre-disposing factors (4mks)
 - iii) Symptoms (3mks)
 - iv) Control measures (6mks)
- b) Describe factors to consider when culling a female (Cow) breeding stock (6mks)
- 26 . a) Outline the various methods of maintaining farm tools and equipment. (8mks)
- b. Describe artificial rearing of layer chicks from day one to end of brooding. (12mks)
27. a
 - i) Give three factors considered in siting a farm structure (3mks)
 - ii) Describe the functions of each of the following parts of a plunge dip (7mks)
 - (a) Foot bath
 - (b) Entrance race
 - (c) Roof
 - (d) Drainage race
 - (e) Jump
 - (f) Dip tank
 - (g) Exit step
- (b) Describe the procedure of constructing a barbed wire fence (10mks)

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SECTION A (30MKS)

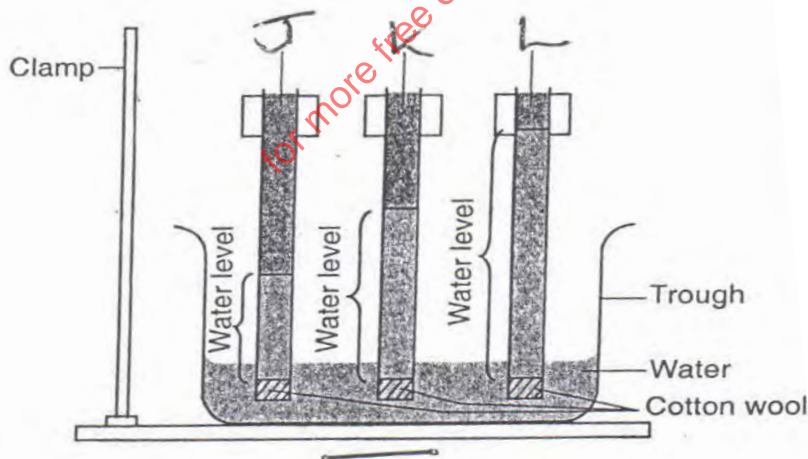
Answer All the question in this section in the spaces provided.

1. List four farming practices that help to reduce the effect of water shortage in crops (2mks)
2. State four main characteristics of shifting cultivation. (2mks)
3. State the importance of sub soiling (1mk)
4. List three advantages of tissue culture (1 ½ mks)
5. State two benefits of optimum soil temperature in crop production. (1mk)
6. Give four soil factors that influence soil productivity. (2mks)
7. Give three characteristics of fixed inputs (1 ½ mks)
8. State four factors which determine the depth of ploughing. (2mks)
9. Give two main methods of conveying water from place to place. (2mks)
10. Differentiate between seed dormancy and seed viability (2mks)
11. State any four factors that determine the spacing of a crop (2mks)
12. Explain the meaning of the following terms as used in pasture establishment
 - (i) Topping (1 mk)
 - (ii) Ley pasture . (1mk)
 - (iii) Rest period (1mk)
13. a) Give three causes of blossom end rot in tomatoes (1 ½ mks)
- b) State one method of controlling blossom end rot in tomatoes (½mk)
14. Define the terms
 - a) Afforestation (1mk)
 - b) Re-afforestation (1mk)
15. State four factors that contribute to the competitive ability of weeds. (2mks)
16. State four types of micro catchments (2mks)

SECTION B (20MKS)

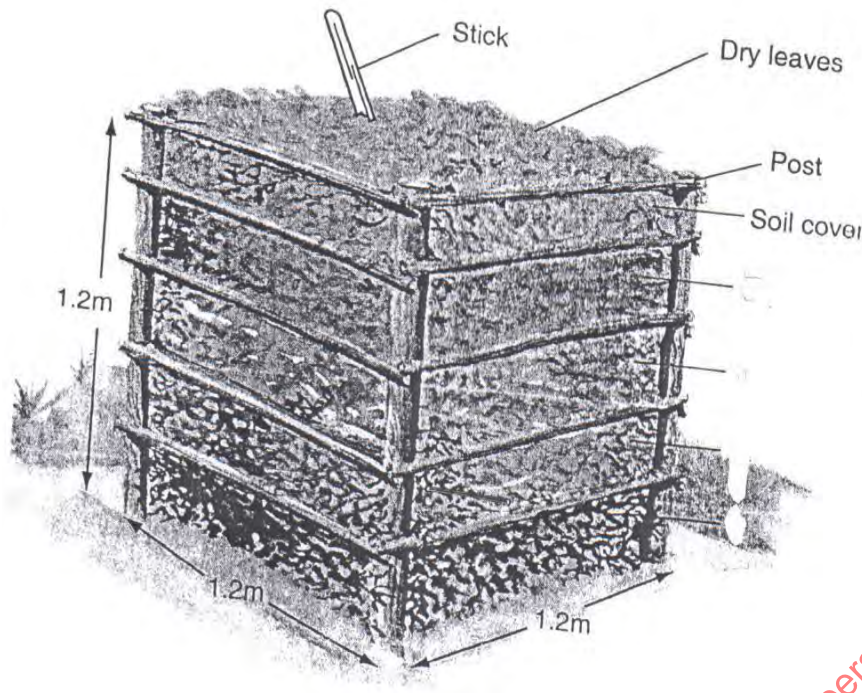
Answer ALL questions in this section in the spaces provided

17. The diagram below shows an illustration on a property of soil using soil samples labeled J, K and L



- (a) The levels of water were observed after 2 hours, name the property of soil being investigated. (1 mark)
- (b) List two properties of soil J. (2 marks)
- (c) Which soil would be suitable for growing paddy rice? Give a reason for your answer. (2 marks)

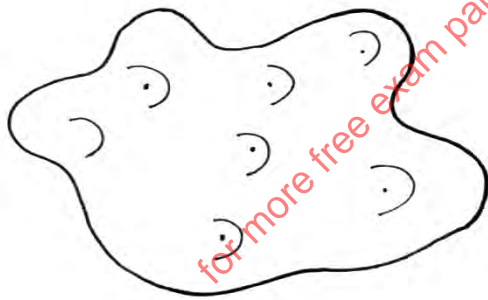
18. Study the diagram below of a method of compost making and answer the questions that follow,



- (a) Identify the methods of compost making (1 mark)
- (b) State four factors to consider when siting the structure (2marks)
- (c) What is the function of the following materials in preparation of compost manure:
 - (i) Top soil (1 mark)
 - (ii) Wood ash (1 mark)

19. Below are two diagrams of Irish potato tubers after being subjected to some m conditions before planting.

D1



Before subjecting to the conditions

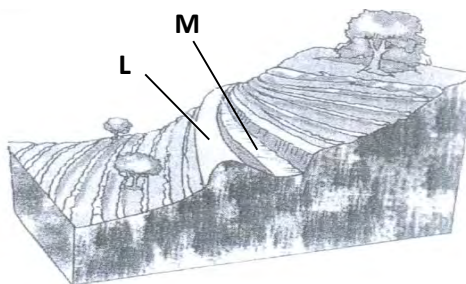
D2



After subjecting to the conditions

- (i) Which process of potato treatment is illustrated above? (1mk)
- (ii) State **two** conditions necessary for the above process. (2mks)
- (iii) Give **two** reasons for carrying out the above practice. (2mks)

20. The illustration below shows a structure used in soil and water conservation



- (a) Identify the structure (1mk)
- (b) Identify parts labelled **L** and **M** in the structure. (2mks)
- (c) How can part labelled **L** be stabilized after it has been constructed . (1mk)
- (d) State any **one** factor that would determine the width and depth of the structure. (1mk)

SECTION C (40MKS)

Answer any **TWO** questions in this section in the spaces provided after question 22

- 21. a). Describe the field production of dry beans under the following sub headings
 - i). Planting (5mks)
 - ii) Weed control (2mks)
 - iii) Harvesting (5mks)
- (b) Describe four effects of land fragmentation and sub-division. (8mks)
- 22. (a) Explain **five** advantages of budgeting in farming (10mks)
- (b) Explain **five** various types of risks and uncertainties (5mks)
- (c) Describe the importance of pruning perennial crops (5mks)
- 23. a). Describe the effects of liberalization of agricultural markets to farming in Kenya (10mks)
- b). Explain how price is determined in a free market situation (3mks)
- c). with examples explain how government policies affect agricultural production (7mks)

LANG`ATA/DAGORETTI

443/2

AGRICULTURE

SECTION A (30 MARKS)

Answer all questions in this section in the spaces provided after each question.

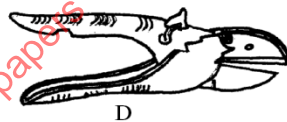
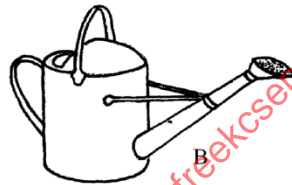
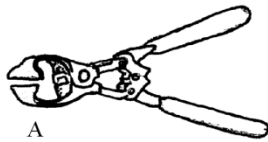
- 1. Name an exotic beef breed of cattle with the following characteristics
 - Black in colour
 - polled
 - Has a long cylindrical compact and deep body. (1mk)
- 2. Give five reasons for identification of cattle in cattle management. (2 ½ mks)
- 3. State four qualities of eggs preferred by consumers in the market (2 mks)
- 4. (a) List four predisposing factors of livestock diseases. (2 mks)
- (b) Distinguish between isolation and quarantine in livestock health. (2 mks)
- (c) Name the intermediate and final host of the tapeworm.
 - Intermediate..... (1/2mk)
 - Final..... (1/2mk)
- 5. State one role of the damp proof course in the foundation of a farm building. (½mk)
- 6. List three signs of farrowing in a sow. (1 ½ mks)
- 7. State **two** reasons for raddling in sheep management. (2marks)

- 8 Name the livestock diseases that may be controlled by use of artificial insemination. (1 mk)
9. Name **four** uses of dromedary camel. (2 mks)
- 10 A part from transmission of disease, give **three** harmful effects of ticks on cattle. (1½ mks)
- 11 State any **four** factors considered when siting farm structures (2mks)
12. State **four** major categories of farm tools and equipment (2mks)
- 13 State **two** reasons for proper care and maintenance of farm tools and equipment (1mks)
- 14 Outline any **four** causes of cannibalism in poultry production. (2mks)
- 15 Give the functional difference between a rip saw and a tenon saw. (1mk)
- 16 Name **two** cattle diseases controlled by vaccines. (1mk)
17. Differentiate between a broiler and a capon (1mk)
18. State **two** advantages of using embryo transplant. (1mks)

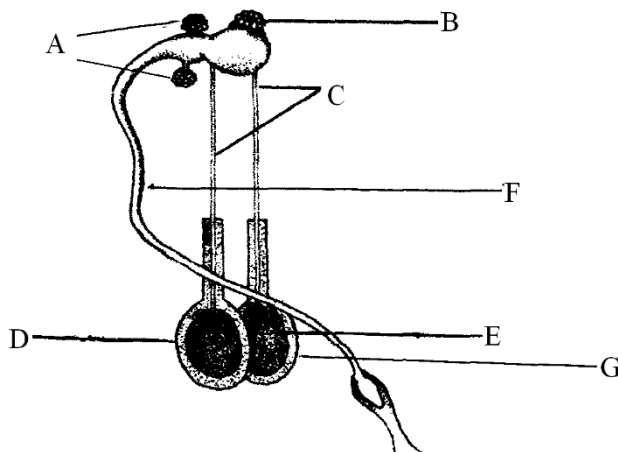
SECTION B (20 MARKS)

Answer all questions from this section in the spaces provided after each question.

- 19 (a) If the maize meal contains 6% Digestible Crude Protein (DCP) and Fish meal contains 64% DCP, calculate the amount of each feed stuff in kilogrammes, required to prepare 200kg of chickmash containing 18% DCP (Show your working) (4mks)
 - (b) Name **two** other feed ingredients which should be added to the chick mash to make it a balanced feed. (1mk)
20. Below are illustrations of farm tools and equipments.

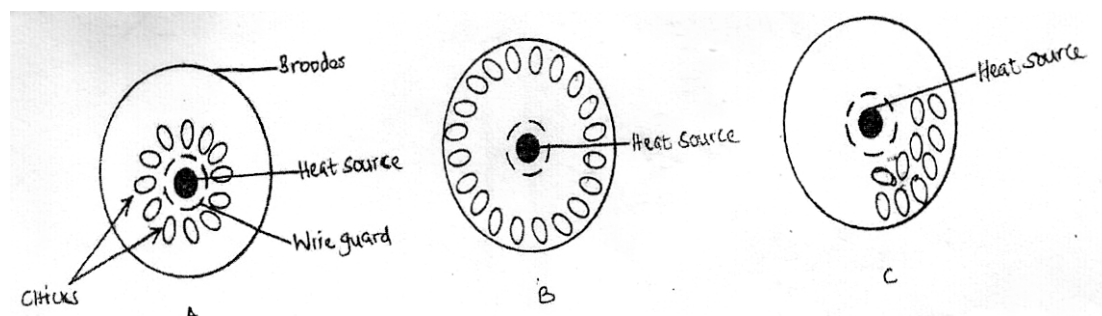


- (a) Identify the tool/equipment labelled A and B. (2mk)
 - (b) State **two** appropriate uses of the tool labelled C. (1 mk)
 - (c) Explain **two** maintenance practices of the tool labelled D. (2 mks)
21. The diagram below shows the reproductive system of a bull. Study the diagram carefully and then answer the questions that follow.



- (a) Name the parts labelled A,B and C. (1 ½ mks)

- (b) State one function of each of the parts labeled B, D and F. (1 ½ mks)
 (c) Explain two suitable conditions for the proper function of part E. (2 mks)
 22. Below are illustrations showing the behavior of chicks in various brooders. Study the diagrams and answer the questions that follow.



- (i) State the environmental problem in each brooder as illustrated by the behavior of the chicks (3marks)
 (ii) State **two** ways of overcoming the problem in **B** (2marks)

SECTION C (40 MARKS)

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

23. (a) Describe conditions under which bees abscond the hive (5mks)
 (b) Describe the causes of stress in poultry management (10mks)
 (c) Describe the uses of fences on the farm (5mks)
 24. (a) State **five** advantages of farm mechanization (5mks)
 (b) Give **five** maintenance practices of a water cooling system of a tractor. (5mks)
 (c) Describe **Rinderpest** disease under the following sub-headings.
 i) Animals attacked (2mks)
 ii) Causal agent. (1mk)
 iii) Symptoms of the disease. (4mks)
 iv) Control measures. (3mks)
 25. a) Explain **four** factors that affect digestibility of food in livestock. (8mks)
 b) Explain the essentials of clean milk production (7mks)
 c) State **five** disadvantages of natural method of mating. (5mks)

SECTION A (30MKS)

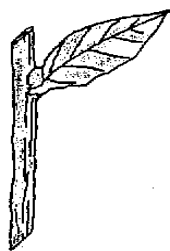
Answer all the questions from this section in the spaces provided.

1. Give **two** characteristics of plantation farming. (1mk)
2. Name **two** chemical processes of weathering. (1mk)
3. State **two** advantages of organic farming. (1mk)
4. Outline **two** effects of soil organisms which benefit plant growth. (1mk)
5. Give **two** ways in which organic mulch help to conserve water in the soil. (1mk)
6. Give **two** types of labour records. (1mk)
7. Outline **four** ways in which land consolidation helps to improve farm management. (2mks)
8. State **four** importance of raising seedlings in a nursery bed. (2mks)
9. Give **four** ways of controlling weeds in a field of maize. (2mks)
10. State **three** reasons for top dressing pasture. (1½mks)
11. Give **four** reasons for training crops as a field practice (2mks)
12. State **three** activities the farmer carries out on a store before storing grains. (1½mks)
13. Give **four** desirable characteristics of certified seeds. (2mks)
14. (a) Outline **two** characteristics of nitrogenous fertilizers. (1mk)
 (b) Give the forms in which the following elements are available to plants: (1mk)
 (i) Phosphorous:
 (ii) Potassium:
15. Give **four** factors that influence the choice of tools and equipment used in Primary cultivation. (2mks)
16. State **four** factors that contribute to competitive ability of weeds. (2mks)
17. Define the following terms as used in crop production. (1mk)
 (a) Trellising (1mk)
 (b) Stooking (1mk)
18. Give **two** advantages of strip grazing (1mk)
19. State **four** advantages of mixed pasture. (2mks)

SECTION B. (20 MARKS)

Answer ALL questions in this section in the spaces provided

20. Study the diagram below and answer the questions that follow. The illustrations represent a method of crop propagation.



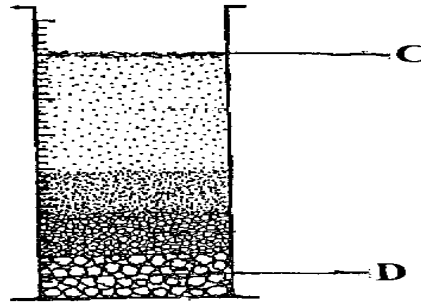
A



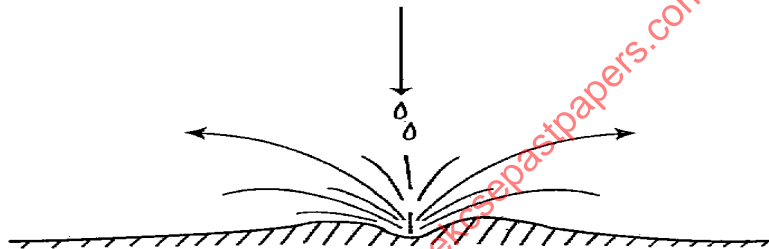
B

- (a) Name the crops (s) propagated by illustrations: (1mrk)
- (b) Give **three** factors that promote the rooting of illustration **A**. (3mrks)

21. The diagram below illustrates an experiment using garden soil. Study it carefully and answer the question that follow.



- (a) What was the aim of the experiment? (1mrk)
 (b) Name the parts labeled **C** and **D**. (2mrks)
 (c) Name the property of soil being investigated. (1mrk)
22. The illustration below shows a type of soil erosion. Study it carefully and answer the questions that follow.

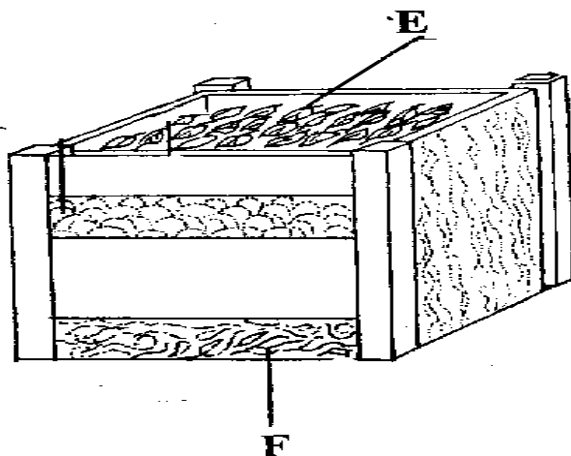


- (a) Identify the type of erosion illustrated. (1mrk)
 (b) Give **two** soil factors that influence the rate of soil erosion. (2mrks)
 (c) Name **one** agent of soil erosion. (1mrk)
23. The diagram below illustrate a method of irrigation carried out on the farm



- (i) Identify the type of irrigation shown above. (1mk)
 (ii) Name **two** advantages of the above method. (2mks)

24. The diagram below represent a method of manure preparation. Study it carefully and answer the questions that follow.



- (a) Identify the type of manure being prepared. (1mrk)
 (b) Name the parts labeled **E** and **F**. (1mrk).
 (c) Give **three** disadvantages of manures. (3mrks)

SECTION C (40MARKS)

Answer any TWO question from the section in the spaces provided

25. (a) Give six precautions observed in pruning mature tea (6 mks)
 (b) Describe the procedure followed when collecting a soil sample form the field for testing in the laboratory (6 mks)
 (c) Outline four advantages of intercropping crops (4 mks)
 (d) State four factors considered before selecting a farm enterprise. (4 mks)
26. Describe the production of tomatoes under the following sub-headings:
 i) Ecological requirements of tomato plants (5mks)
 ii) Land preparations (4mks)
 iii) Transplanting (7mks)
 iv) Disease control (4mks)
27. a) State five factors that influence soil productivity. (5mks)
 b) State five qualities of mother plant used during grafting. (5mks)
 c) Give two types of mulching materials. (2mks)
 d) State four agricultural practices which pollute water. (4mks)
 e) Describe precautions followed when harvesting coffee. (4mks)

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PAPER 2

SECTION A (30 MARKS)

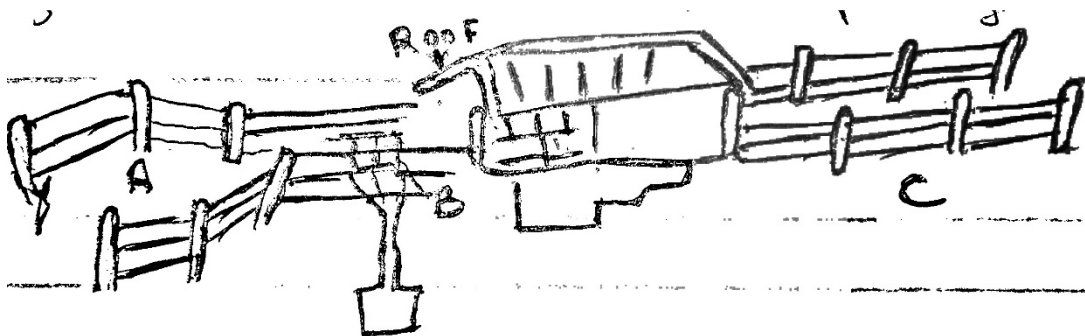
Answer all questions in this section in the spaces provided.

1. Name the camel breed with two humps. (1 mark)
2. List four disadvantages of animal drawn implements. (2 marks)
3. Name the vectors for each of the following livestock diseases. (2 marks)
 - a) East coast fever.....
 - b) Rift valley fever.....
 - c) Trypanosomiasis.....
 - d) Nairobi sheep disease.....
4. Give four factors considered when selecting a site for fish pond. (2 marks)
5. List four implements that can be connected to the power take off shaft (PTO) of a Tractor. (2 marks)
6. State two methods of increasing the depth of penetration of a disc harrow. (2 marks)
7. (a) Name the tools used in (2 marks)
 - (i) Cutting curves on thin wood.....
 - (ii) Measuring the inner diameter of a circular object/surface.....
 - (iii) Cutting thin sheets of metal.....
 - (iv) Tightening wires during fencing.....
- b) State two care and maintenance practices of masonry tools and equipment. (1 mark)
8. State four pre-disposing factors of mastitis disease in cattle. (2 marks)
9. Outline four factors which would be considered when culling layers. (2 marks)
10. Give three reasons for choosing corrugated iron sheets in roofing of farm stores instead of tiles (3 marks)
11. What is the purpose of fixing a ring around nostrils of a bull? (1 mark)
12. State one use of each of the following parts found in a tractor.
 - (a) Carburetor..... (1 mark)
 - (b) Spark plug (1 mark)
13. Name the mineral whose deficiency symptom is Grass tetany in livestock. (½ mark)
14. Give three post-milking activities in dairy cattle. (1½ marks)
15. Name two livestock diseases controlled by the same vaccine and name the Vaccine (1½ marks)
16. State the role of the following hormones in livestock production. (2 marks)
 - Prolactin.....
 - Oxytocin
17. Name one parasite of bees. (½ mark)

SECTION B (20 Marks)

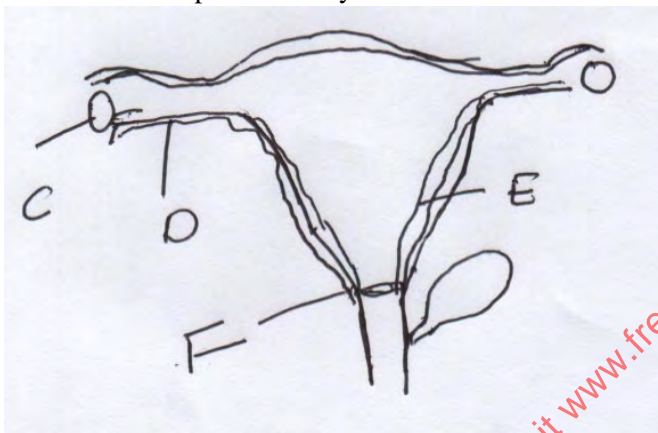
Answer all the questions from this section.

18. Diagram below show a plunge dip.



- Using a arrow on the diagram show the movement of cattle (½mark)
- a) State one use of parts A, B and C (3marks)
- b) State two precautions a farmer should take on dip to ensure effective dipping (2marks)
- c). State two uses of the roof of the dip (2marks)
- d) State three disadvantages of a plunge dip (3marks)
- 19 a) i) Identify the tools below (1mark)
- ii) State the use of tools x and y (2marks)
- iii) Explain two maintenance practices carried on tool X (2marks)
- b) Name the tools used in conjunction of following tools (2marks)
- i) Trocar
- ii) Hypodermic needle
- iii) Wood chisel
- iv) Star headed screw

20a) Diagram below show reproductive system of a female cow



- i) Name the part marked (1mark)
- ii) State the function of parts marked (1mark)
- b) At what stage should a gilt be mated? (½mark)

SECTION C (40 Marks)

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

21. (a) Describe five pre-disposing factor of livestock diseases. (5marks)
- (b) Describe six mechanical methods of controlling ticks (6 marks)
- (c) Describe the factors that affect milk composition of a cow (9 marks)
22. (a) (i) Explain five advantages of animal power. (5marks)
- (ii) Describe three operational differences between disc plough and mouldboard plough. (6 marks)
- (b) Describe the use of various materials in construction of a Kenya to hive (4 marks)
- (c) Outline the care and maintenance of a tractor water cooling system. (5marks)
23. (a) (i) State four physiological body processes considered when assessing on animal health. (4marks)
- (ii) Explain nine factors considered when selecting a breeding stock. (9marks)
- (b) Describe Brucellosis disease in Cattle under the following sub-headings.
- (i) the cause of the disease (1mark)
- (ii) Symptoms of the disease (4marks)
- (iii) Control measures (2marks)

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