443/1
AGRICULTURE
Paper 1
Time: 2 Hours

SET 1

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

INSTRUCTIONS TO CANDIDATES

1. *This paper consists of Three Sections A, B and C.*
2. *Answer all the questions in Section A and B and any two questions from Section C.*

FOR EXAMINER'S USE ONLY

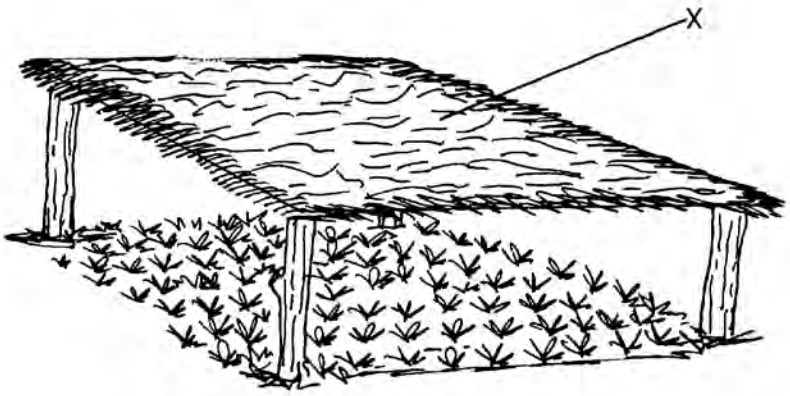
SECTION	QUESTION	MAX. SCORE	CANDIDATE,S SCORE
A	1 – 18	30	
B	19 – 21	20	
C	22 – 24	20	
		20	
TOTAL SCORE		**90**	

1. State **two** benefits of liming in crop production. (1mk)
2. List **four** climatic factors other than rainfall that influence crop production and distribution (2mks)
3. Give the uses of each of the following financial documents.
   (a) Cash sale receipt (½ mk)
   (b) Delivery note (½ mk)
   (c) Local purchase order (½ mk)
4. State **two** benefits of a good soil structure in crop production. (1mk)
5. Explain the following terms as used in fertilizer Chemistry.
   (i) Fertilizer grade (1mk)
   (ii) Fertilizer ratio. (1mk)
6. State **four** functions of calcium in plant growth. (2mks)
7. State **four** factors to consider when grading tomatoes for fresh mashet (2mks)
8. Give **four** variable costs in production of coffee, in an established field of coffee. (2mks)
9. State **four** uses of organic mulch in crop production. (2mks)
10. State **four** factors that contribute to the competitive ability of weeds. (2mks)
11. Give **two** ways in which land consolidation helps to improve farm management. (1mk)
12. Define the following terms as used in crop production.
    (a) Trellishing (1mk)
    (b) Stooking (1mk)
13. Give **two** advantages of strip grazing (1mk
14. State **four** advantages of mixed pasture. (2mks)
15. Give **two** factors to be considered when selecting ascion for grafting (1mk)
16. State **three** characteristics of shifting cultivation. (1 ½ mks)
17. State **three** advantages of adding organic matter to sandy soil. (1 ½ mks)
18. State **five** activities that a farmer should carry out on the storage facility before Storing farm produce. (2 ½ mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B (20 MARKS)
Answer all the questions

19. Below is a diagram of nursery for raising cabbage seedlings.



(i) State **four** advantages of the part labeled X (4mks)

(ii) State **four** management practices that should be carried out on the nursery from the time seedlings emerge to the stage of transplanting. (2mks

(iii) At what stage of growth should cabbage seedlings be transplanted. (2mks)

(iv) How would the damage to the seedlings be minimized when uprooting them during Transplanting. (1mk)

20. The table below shows the demand and supply of potatoes at Ukulima market.

PRICE	QUANTITY DEMANDED (IN BAGS)	QUANTITY SUPPLIED (IN BAGS)
1200	50	250
1000	90	200
800	150	150
600	225	70
400	335	0

(a) Using suitable scales, draw and label a graph showing the relationship between the demand and supply of potatoes at Ukulima market. (5mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(b) What is the equilibrium price of the potatoes? (1mk)

(c) From the graph determine;

i) The number of bags of potatoes that would be bought if the price per bag is Ksh.900 (1mk)

21. The diagram below shows a weed.

(a) Identify the weed. (1mk)

(b) State **two** reasons for controlling the weed. (2mks)

(c) At what stage of growth of maize should be weed be controlled using a post emergence herbicide? (1mk)

SECTION C (40 MARKS)

Answer any two questions in this section.

22. (a) Describe field production of napier elephant grass under the following sub-headings

(i) Seedbed preparation (4mks)

(ii) Planting (4mks)

(iii) Utilization (3mks)

(b) Describe **four** farming practices that may help in achieving mining tillage (4mks)

(c) Explain the various ways of improving labour efficiency on the farm. (5mks)

23. (a) Give **four** factors that influence the quantity of water used on the farm. 4mks)

(b) State **four** advantages of drop irrigation in a farm. (4mks)

(c) State **four** factors considered when designing a crop rotation programme (4mks)

(d) Give **one** reason for carrying out each of the following practices in a tomato nursery.

(i) Pricking out (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(ii) Hardening off (1mk)

24. (a) Explain the factors that determine the choice of method for controlling pests and Diseases in crop production. (10mks)

(b) Explain **seven** ways of breaking seed dormancy. (7mks)

(c) Give **THREE** reasons why it is advantageous to use farm yard manure instead of a straight fertilizer (3mks)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

SET1
Agriculture
Paper 2

SECTION A: (30 MARKS)

Answer all the questions in the spaces provided.

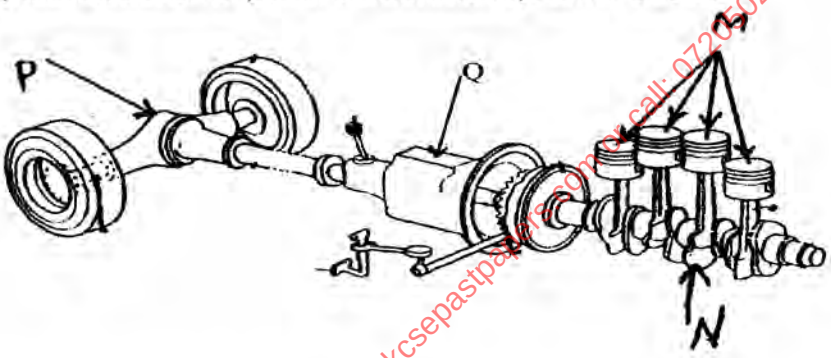
1. State **four** safety precautions that should be observed in working with workshop tools (2mks)
2. Apart from high batter fat content, give two other good qualities of Jersey breed over Friesian breed. (1mk)
3. State **four** factors that influence rate of respiration in farm animals 2mks)
4. Give **two** feeding characteristics of goats which make them less vulnerable to internal parasites. (1mk)
5. List **four** factors considered when formulating a livestock ration. (2mks)
6. Distinguish between inbreeding and out crossing in livestock production. (2mks)
7. Give **three** reasons that will make a farmer give milk to kids using artificial methods (1 ½ mks)
8. State **two** reasons for spreading a damp proof course (PVC) on foundation during construction of farm buildings (1mk)
9. Give **two** signs that would indicate a cow has died of anthrax disease. (1mk)
10. List **three** abnormalities that can be found in an egg. (1 ½ mks)
11. State **four** pre-milking practices in a dairy hard. (2mks)

12. List **three** functions of a carburetor. (1 ½ mks)
13. (a) Name the hormone that is concerned with milk synthesis. (1 ½ mks)
    (b) State three factors that make a lactating cow withhold milk. (1 ½ mks)
14. List **two** implements that are connected to the power take off shaft of a tractor. (1mk)
15. State **four** functions of the lubrication system in a tractor engine. 2mks)
16. Give **two** functions of drones in a bee colony (1mk)
17. Give **three** problems associated with lambing. (1 ½ mks)
18. Give **four** factors that determine the amount of feed given to an animal (2mks)
19. Differentiate between strategic and tactical treatment as used in control of endo parasites. (2mks)

SECTION B (2OMARKS)

Answer all questions in the spaces provided

20. Study the illustration of power transmission system of tractor

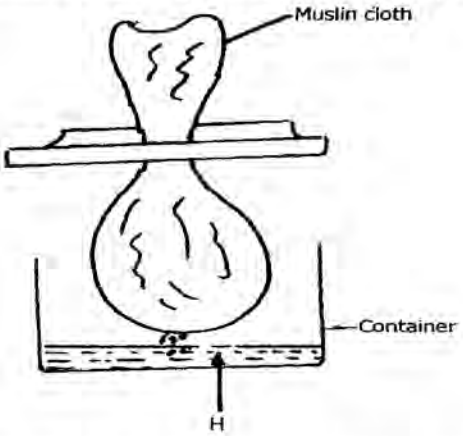


for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(a) Identify and mane the parts labeled (1 ½ mks)

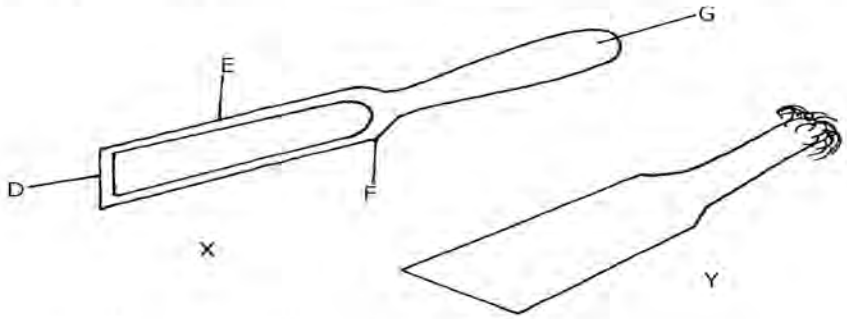
(b) State **three** functions of part Q (3mks)

21. Study the diagram below showing a method of honey extraction



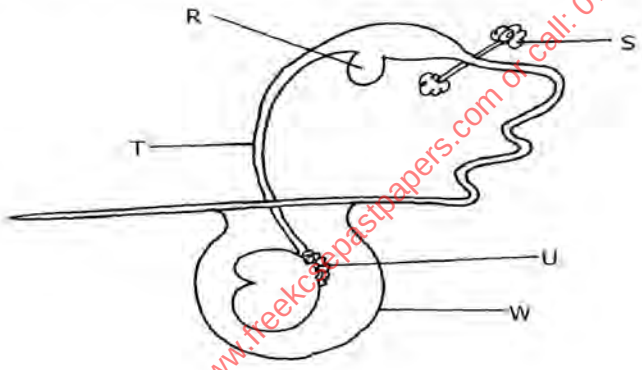
(a) Identify the method of extraction illustrated above (½ mk)
(b) State **four** factors which affect the quality of production H (2mks)

22. Below is an illustration of workshop tools. Study them carefully and answer the questions that follow.



(a) Identify tool X and Y (1mk)
(b) Name the parts labeled D, E, F and G (2mks)
(c) Name the tool used for shapening tool X. (½ mk)

23. The diagram below represents reproductive system of a bull.



For free pastpapers visit: www.freekcsepastpapers.com or call: 0720502479

(a) Name the parts labeled R, S, T and U. (2mks)
(b) Give **one** function of parts labeled R, S, T and U (2mks)
(c) Give **two** functions of part labeled W. (1mk)

24. Below are **two** diagrams showing a management practice carried out in poultry rearing.

(a) Identify the management practice carried out on diagram "B" (½ mk)
(b) Give **two** reasons that will make a farmer to carry out the above practice (1mk)

(c) List **one** tool that can be used to carry out the above management practice.(½ mk)

25. Study the diagram below carefully and answer the questions that follow. The number on the Right ear represents litter number while the left ear number represents the individual number

(i) Name the livestock routine practice shown above. (1mk)

(ii) State **two** reasons why farmers carry out the livestock routine practice shown in the diagram above. (1mk)

SECTION C (40 MARKS)

Answer any Two questions in the spaces provided.

26. (a) Explain any **five** management practices a beef farmer should carry out during drought season to improve production. (5mks)

(b) Explain **five** factors considered when siting a cattle dip. (5mks)

(c) Outline the routine management practices of Piglets from 1st day to the 8th week (10mks)

27. (a) Write short notes on foot and mouth disease under the following sub-headings.

(i) Causal organism (1mk)

(ii) Mode of transmission (1mk)

(iii) Symptoms of attack (4mks)

(iv) Control measures (4mks)

(b) Explain the importance of keeping livestock healthy (10mks)

28. (a) Describe the procedure of establishing a fish pond. (10mks)

(b) Describe the life cycle of a three host-tick (7mks)

(c) State factors affecting digestibility (3mks)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

443/1
AGRICULTURE
PAPER 1
TIME: 2 HOURS

SET2

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index number** in the spaces provided.*
- *This paper consists of three section **A**, **B** and **C***
- *Answer **all** the questions in section **A** and **B***
- *Answer any **two** questions in section **C**.*
- *Answers should be written in the spaces provided in this booklet.*

For Examiner's Use Only:

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-22	30	
B	23-27	20	
C		20	
		20	
	TOTAL	90	

This paper consists of 7 printed pages. Candidates should check to ascertain that all papers are printed as indicated and that no questions are missing

Website: www.freekcsepastpapers.com . Call: 0720502479 to get the marking scheme at a small fee

Empowering Students

SECTION A (30MARKS)

Answer all questions in this section in the spaces provided.

1. Give the advantages of keeping beef cattle in ranches as approved to nomadic pastrolism. (2mks)
2. State **four** characteristics of shifting cultivation. (2mks)
3. List **four** types of records that may be kept in tomato production. (2mks)
4. Give the importance of agricultural economies. (1mk)
5. State any **four** effects of rainfall on agriculture. (2mks)
6. a) Give **three** reasons why it is difficult to control Sodom apple weed in a crop field. (1½mks)
   b) State the advantages of mechanical weed control through tillage. (1½mks)
7. Give the reasons for practicing minimum tillage in seedbed preparation. 2mks)
8. Differentiate between a seedbed and a seedling bed as used in crop production. (1mk)
9. Give reason why rolling is carried out in crop production. (1mk)
10. State **four** reasons why drainage of land is necessary in crop production. (2mks)
11. Give the functions of each of the following in the preparation of compost manure.
    i) Wood ash (½ mk)
    ii) Topsoil (½ mk)
    (iii) The stick driven into the compost head. (½ mk)
    (iv) Well rotten manure (½ mk)
12. Why are leguminous plants prefered for green manure? (1mk)
13. Suppose the farmer has to apply **30kg P_2O_5** per hectare and has the following at his disposal 21:15:60
    i) What do the numbers **21** and **60** stand for? (2mks)
    ii) Calculate the amount of **P_2O_5** he will require for 2hectares (2mks)
14. State **four** things that would happen to the element nitrogen when ammonium sulphate
15. The table below shows crops and the vegetative propagation materials. Complete the table with the correct crop or vegetative materials. (3mks)

Crop	**Vegetative propagation material**
Pyrethrum	
Pineapple	
Sugarcane	
	Stem tuber

for free past papers visit www.freekcsepastpapers.com or call 0720502479

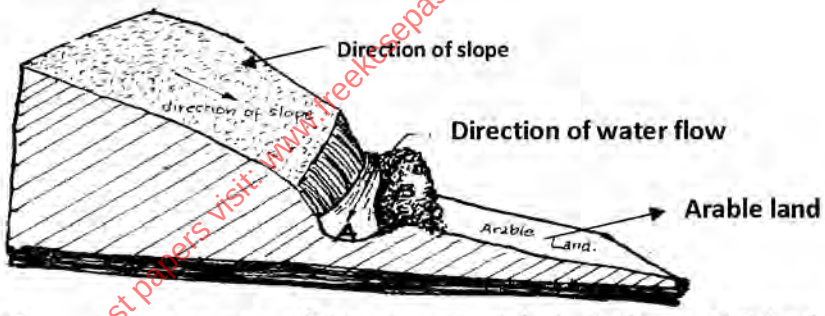
	Suckers
	Root tubers

16. Give a reason why the width of a vegetable nursery would be 1meter. (1mk)
    b) State the factors considered in siting a nursery. (2mks)
17. Define the term tipping as used in the production in the field. (1mk)
18. Name **two** types of pruning in coffee. (1mk)
19. What is the effect of removing the terminal bud in tomatoes? (1mk)
20. Give a reason for hardening off vegetable seedlings 2-3 weeks before transplanting. (1mk)
21. Describe the factors that affect the ensiling process. (3mks)
22. State **four** advantages of rotational grazing as a grazing system. (2mks)

SECTION B (20MARKS)

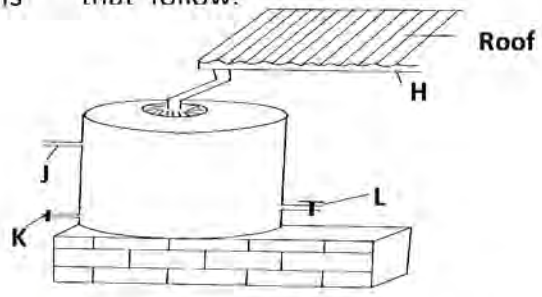
Answer *all* questions in this section

23. The illustration below shows a newly constructed cut-off drain. Study it and answer the questions that follow.



a) i) How can part of the structure labeled **B** be established after it has been constructed? (½mk)
   ii) Identify the part of the cut-off drain labeled **A**. (½mk)
b) Describe the procedure of constructing a cut-off drain. (2mks)

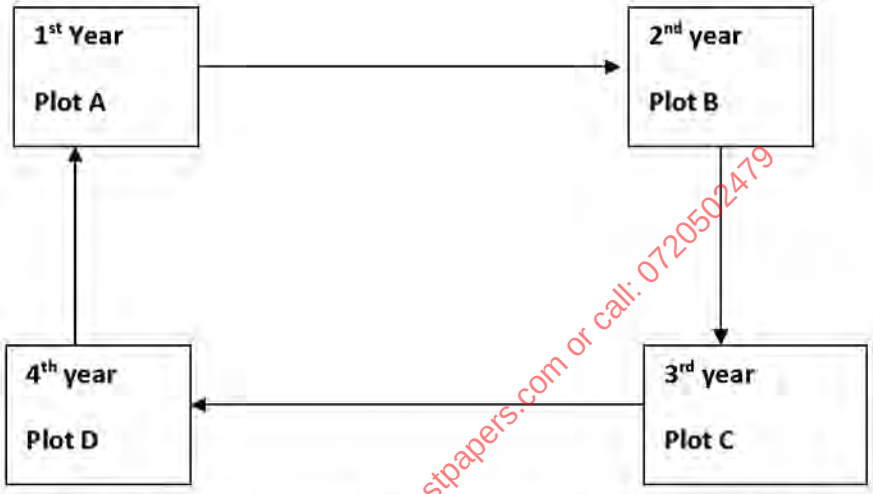
24. The diagram below shows a house water storage tank. Study it and answer the questions that follow.



for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

a) Identify the parts of the tank labeled
b) Give the function of the part labeled J (1mk)

25. The illustration below shows a four year crop rotation programme. Study it and answer the questions that follow.



a) Explain why it is appropriate to plant peas in year 2 after maize. (4mks)
b) Why would Rhodes grass be included in the rotation at year **four**? (1mk)

26. Diagrams **G** and **H** show weeds. (1mk)

a) Identify the weeds
i) Describe the economic importance of the weed shown in **G.** (3mks)
ii) Classify the weed labeled **H** according to growth cycle. (1mk)

27. A farmer has a piece of land on which he grows maize. His farm record on maize production for nine years is shown below.

YEAR	FERTILIZER APPLIED 50KG BAGS	TOTAL OUTPUT OF MAIZE (90KG BAGS)
2003	0	4
2004	2	10
2005	4	28

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

2006	6	42
2007	8	52
2008	10	60
2009	12	66
2010	14	66
2011	16	

a) Calculate the farmer's marginal product for the year **2005**. (1mk)

b) i) From the data given, what rate of fertilizer application would the farmer choose if he wanted to grow maize in **2012**? (1mk)

ii) Give an explanation for your choice in b (i) above. (1mk)

c) Calculate the average product for the year **2007**. (1mk)

SECTION C (40MARKS)

Answer any TWO question from the section in the spaces provided after question 30.

28. a) Explain **five** human factors influencing agriculture. (10mks)
b) Describe the methods used to prepare planting materials before they are planed. (4mks)
c) Describe the use of any three materials used in building/grafting (6mks)

29. a) Describe the importance of vegetable crop. (6mks)
b) Explain the cultural methods of pest control. (7mks)
c) Describe the physical methods of erosion control. (7mks)

30. a) (i)Describe water control in a ice field. (7mks)
(ii) Explain the precautions that should be observed during the harvesting of coffee. (2mks)
c) Describe the vegetation effects of land fragmentation (5mks)
d) Explain the basic concepts of economies. (6mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SET2
Agriculture
Paper 2

SECTION A: (30MARKS)

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

1. Give the functional difference between a rip saw and a tenon saw. (1mks)
2. List **four** disadvantages of using a hedge as a fence . (2mks)

3. Give **five** physical characteristics of a large white breed of pig. (2 ½mks)
4. State **three** factors that dictate livestock distribution in Kenya. (1 ½mks)
5. State the six methods a farmer can use to control livestock diseases. (3mks)
6. Describe signs of good health under the following-:
   i) Movement (½mk)
   ii) Urine (½mk)
   iii) Posture (½mk)
7. State the factors that determine the nutritional requirements of an animal. (2mks)
8. Give the function of each of the following parts of a female reproductive organ in poultry.
   I) Isthmus (½mk)
   ii) Infundibulum (½mk)
   iii) Magnum (½mk)
   iv) Uterus (½mk)
9. Give reasons for breeding in livestock. (2mks)
10. Outline the importance of creep feeding in piglets. (2mks)
11. Differentiate between the term **incubation period** and **mortality rate** as used in livestock health. (1mk)
12. a) Name **one** vector that transmits each of the following diseases.
    i) Anaplasmosis (½mk)
    ii) East Coast Fever (½mk)
    iii) Trypanosomiasis (½mk)
    b) Name a protozoan disease that is not vector transmitted (½mk)
13. Outline any **four** factors that may necessitate culling in a flock of laying birds. (2mks)
14. Give the importance of feeding colostrums to calves. (2mks)
15. List the main source of electrical power (2mks)
16. Name the types of natural immunity. (1mk)
17. Define the hitching as used in farm machinery. (1mk)
18. Name the part of the tractor where trailed implements are attached. (½mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B (20MKS)

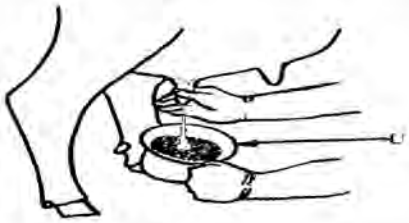
Answer *ALL* questions in this section in the spaces provided.

19. Below is a diagram of a farm tool.

a) i) Identify the tool. (½mk)
   ii) Name the part of the tool labeled **E.** (½mk)

b) State **one** appropriate use of the tool. (1mk)

c) Below is an illustration of an activity carried out to detect an infection of the udder before the actual milking is done.

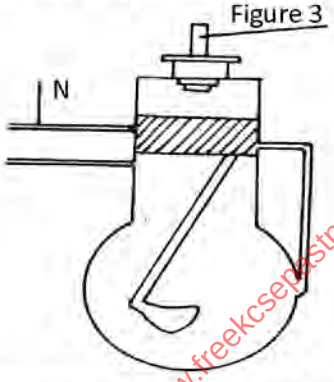


i) Name the equipment in the illustration labeled **U.** (½mk)

ii) State **two** changes that can be observed in milk, using the equipment, if the udder is injected. (1mk)

20. Below is an illustration of a stroke in a two stroke cycle engine **Fig3.** Study it and answer the question that follow.

Figure 3



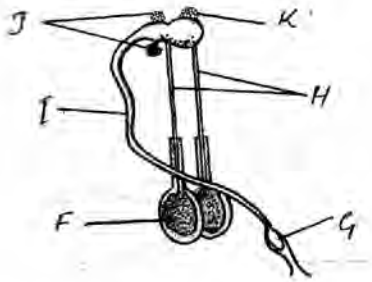
a) i) Identify the part labeled **N**. (½mk)

ii) Give the function of the part labeled **M**. (½mk)

b) Identify the stroke in figure 3 above. (1mk)

c) Describe the process taking place in the stroke named in b above. (2mks)

21. The illustration below shows a male reproductive system in cattle. Study it and answer the questions that follow.

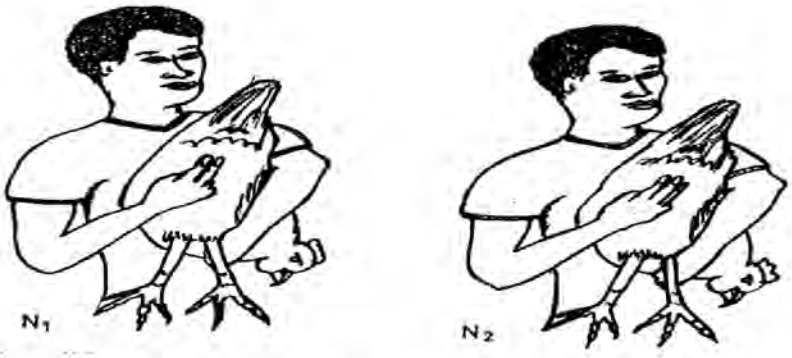


a) Identify the parts labeled **I, J, K** and **G**. (2mks)

b) Give **one** function for each of the parts labeled **F** and **H.** (2mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

22. Diagrams **N1** and **N2** below show the fingers fitted between pelvic bones as a practice used in examining layers during culling

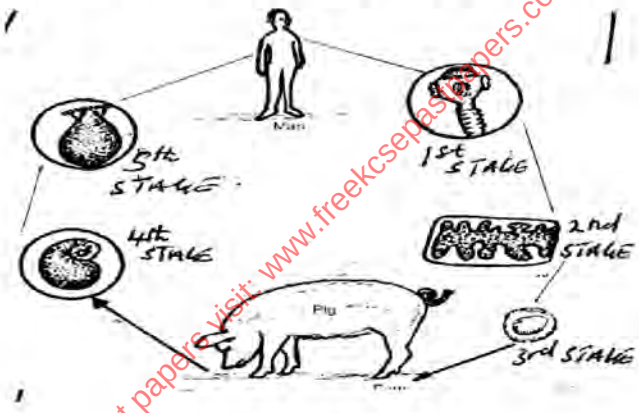


a) i) Which layer would be culled (1mk)

ii) Give **two** other characteristics that can be examined when culling. (2mks)

b) Other than using the characteristics of a layer, give another method that can be used to cull layer

23. The illustration below shows a life cycle of an internal parasite.



a) i) Identify the parasite (1mk)

ii) How is the parasite passed from livestock to man. (1mk)

b) Give **two** forms in which the parasite is found in livestock. (1mk)

c) State the methods used to control the parasite at the 5th stage. (2mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION C (40 MARKS)

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

24. a) Describe life cycle of a two host tick. (6mks)

b) Describe digestion in a rumen of a ruminant. (8mks)

c) Describe the factors that stimulate milk leddown in dairy cattle. (6mks)

25. a) Explain any **five** factors considered in siting farm buildings and structures. (10mks)

b) Describe coccidiosis disease under the following sub-headings.

i) Animals attacked (2mks)

Ii) Symptoms of attack (5mks)

iii) Control measures (3mks)

26. a) Describe management of broiler chicks under the following sub-headings.

i) Parasite and disease control in the brooder. (9mks)

ii) Feeding management (6mks)

b) Describe the maintenance of the cooling system of a tractor engine. (5mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

443/1
AGRICULTURE
PAPER 1
Time: 2 HOURS

SET3

INSTRUCTION TO CANDIDATES

- *This paper consists of **THREE** sections: **A, B** and **C**.*
- *Answer **ALL** questions in section **A**.and**B***
- ***ANY** Two questions from section **C**.*

SECTION	MARKS	CAND. SCORE
A	30	
B	20	
C	40	
TOTAL SCORE	**90**	

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

SECTION A (30MKS)

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 **three** effects of soil organisms which benefit plant growth. ($1^1/_2$mks)
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.(2mk)
8. List **six** factors that should be considered when grading a crop produce. (3mks)
9. State **four** importance of raising tomato seedlings in a nursery bed. (2mks)
10. Give **four** ways of controlling weeds in a field of maize. (2mks)
11. State **three** reasons for top dressing pasture. ($1^1/_2$mks)
12. Give **four** reasons for training crops as a field practice . (2mks)
13. State **three** activities the farmer carries out on a store before storing grains. ($1^1/_2$mks)
14. Give **four** desirable characteristics of certified seeds. (2mks)
15. (a) Outline **two** characteristics of nitrogenous fertilizers. (1mk)
    (b) Give the forms in which the following elements are available to plants: (1mk)
    List **three** general symptoms of viral diseases in crops. ($1^1/_2$mks)
16. Give **four** factors that influence the choice of tools and equipment used in Primary cultivation. (2mks)
17. State **four** factors that contribute to competitive ability of weeds. (2mks)

SECTION B. (20MKS)

18. (a) Diagram below shows an adult crop pest which in its larval stage causes the middle shoots of sorghum to wither as shown in the diagram.

(i) Identify the pest. ($^1/_2$mks)

(ii) Give **two** ways of controlling the pest. (2mks)

(b) Diagrams E,Fand G below shows the panicles of three sorghum varieties growing side by side.

(i) Which one of the **three**varieties of sorghum is least likely to be damaged by the birds. ($^1/_2$mks)

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

(iii) State **two** methods that are used in controlling birds in a field of sorghum.(2mks)

19. The diagram below shows a method of bringing tea into bearing. Use it to answer the questions that follow

(i) Identify the specific method shown in the diagram. ($^1/_2$mk)

(ii) Describe the procedure of carrying out the above in a tea bush. (4mks)

20. Use the diagrams below to answer the questions that follow

(a) Identify each of the soil structures labeled K and L ($^1/_2$mks)

(b) Give **one** place where the soil structure labeled L can be found. (1mk)

(c) State **three** ways in which a farmer can improve the structure of water logged clay soil. (3mks)

21. The diagram below illustrates a vegetative propagation method. Study it and answer the questions that follow.

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(a) Name the method used in preparing the above planting material. (½ mk)
(b) Name the crop propagated using the above method (1mk)
(c) Name the parts labeled X and Y (2mks)
(d) State one environmental condition necessary for the success of the method named in (a) above. (1mk)

SECTION C. (40MKS)

22. (a) Describe the production of Kales under the following sub headings:-
Seedbed preparation (3mks)
(i) Transplanting (5mks)
(ii) Field practices (4mks)
(b) Explain eight cultural control measures of diseases in crop production. (8mks)

24 (a) Below is a graphical representation of the law of diminishing returns. Explain what happens in each of the zones marked I, II and III in relation to output. (3mks)

(b) Which of the **three** is a rational zone of production? (1mk)
(c) State any **six** precautions a potato farmer would take to minimize risks in the production of potatoes. (6mks)
(d) Explain **ten** factors to consider when selecting a farm enterprise (10mks)

25. (a) Give **six** precautions observed in pruning mature tea. (6mks)
(b) Describe the procedure followed when collecting a soil sample from the field for testing in the laboratory. (6mks)
(c) Give **four** desirable characteristics of materials used in the preparation of compost manure. (4mks)
(e) Outline **four** advantages of intercropping crops. (4mks)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

SET3
Agriculture
Paper 2

SECTION A (30 MARKS)
Answer all questions in this section in the spaces provided.

1. Name the intermediate host of the following parasites (1mk)

(i) Tape worm:
(ii) Liver fluke

2. Give **two** methods for selecting animals for breeding. (1mk)

3. State the length of gestation period in the following animals: (1mk)

(i) Sow
(ii) Rabbits

4. State **two** practices that may be carried out to control breeding diseases among cattle. (2mks)

5. Why is not recommended to use saw dust in an incubator. (1mk)

6. Give the functional difference between a mason's trowel and garden trowel. (1mk)

7. State **one** maintenance practice that a farmer needs to carry out on each of the following parts of a tractor (2mks)

(i) Tyre:
(ii) Spark plug

8. Give **four** reasons for seasoning timber before use (2mks)

9. (a) Name the specific feed classes for the following feedstuffs (1mk)

(i) Fish meal:
(ii) Banana Stems:

10. List **four** beef cattle breeds: (2mks)

11. State **four** reasons for feeding bees. (2mks)

12. Name **six** qualities of eggs for incubation (3mks)

13. Name **four** livestock diseases that are caused by bacteria (2mks)

14. Outline **three** reasons why calves should be fed on colostrum (3mks)

15. Name the **four** strokes in a four stroke cycle engine in their correct order (2mks)

16. Give the functions of the following parts of the mould board plough: (4mks)

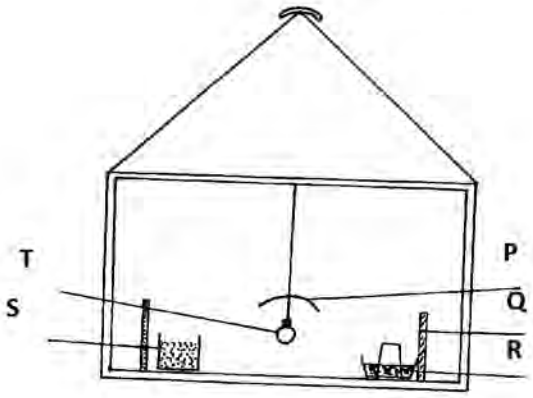
(a) Share :
(b) Mouldboard:
(c) Landside :
(d) Disc coutler

SECTION B (20 MARKS)

Answer all the questions in this section in the spaces provided

17. Below is a diagram showing a cross- section of a brooder for chicks. Use it to answer the questions that follow.

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479



(a) Identify the parts labelled **P, Q, R, S** and **T**. (2½mks)
(b) What is the purpose of the part labelled **Q**? (1mk)
(c) State **two** ways by which temperature in the brooder may be raised. (2mks)
(d) Name any material that would be suitable for use as litter in this brooder (½mks)

18. The diagram below shows a livestock parasite.

(a) Identify the parasite (1mk)
(b) In which organ in livestock is the parasite found ? (1mk)
(c) Name **one** intermediate host of the parasite (1mk)
(d) Outline **four** symptoms of attack in livestock by the above parasite (4mks)
(e) State **two** methods by which the parasite can be controlled. (1mk)

19. (a) State **three** factors that should be considered when siting a farm building (3mks)

(b) Give **two** maintenance practices of a trailer. (2mks)

(c) List **two** sources of farm power (1mk)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

SECTION C (40 MARKS)

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

20. Describe the rearing of one day old chicks from the day they arrive on the farm to the

point of laying. (20mks)

21. (a) Discuss Brucellosis under the following sub topics

(i) Casual organism (in cattle) (1mk)

(ii) Symptoms (4mks)

(iii) Control (5mks)

(b) Explain the importance of keeping livestock healthy (10mks)

22. (a) Explain **ten** factors considered when selecting livestock for breeding: (10mks)

(b) Describe **ten** management practices carried out on cattle during parturition. (10mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

443/1

AGRICULTURE
PAPER 1
TIME: 2 HOURS

SET4

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index number** in the spaces provided above.*
- *Sign and write the date of examination in the spaces provided above.*
- *This paper consists of three section **A,B** and **C***
- *Answer **all** the questions in section **A** and **B***
- *Answer any **two** questions in section **C**.*
- *Answers should be written in the spaces provided in this booklet.*

for free past papers visit www.freekcsepastpapers.com or call 0720502479

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAX SCORE	CANDIDATES SCORE
A	1-16	30	
B	17-20	20	
C		20	
		20	
TOTAL		90	

This paper consists of 8 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

SECTION A: (30 MARKS)

Answer all questions in this section in the spaces provided.

1. Name **four** processes of biological weathering. (2mks)
2. Name **four** types of records a maize farmer should keep (2mks)

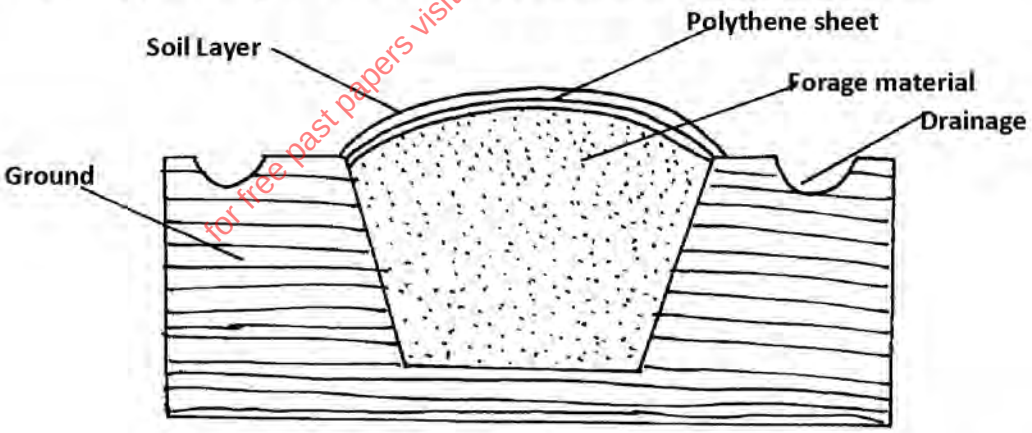
3. (a) What is mixed farming ? (1mk)
(b)Give **three** disadvantages of mixed farming to a small scale farming. (1½mks)
4. State **three** ways in which trees improve soil productivity. (1½mks)
5. List **four** minimum tillage farming practices (2mks)
6. Give **two** routine maintenance practices on water storage tanks. (1mk)
7. List **four** examples of joint products in livestock production (2mks)
8. State **four** examples of variable inputs in sorghum. (2mks)
9. State **four** effects of pests with both piercing and sucking mouth parts on crops. (2mks)
10. State **two** ways of breaking seed dormancy during the preparation of planting materials. (1mk)
11. State **three** importance of tissue culture in crop production (1½mks)
12. List **four** financial documents that should be kept on a farm (2mks)
13. State **four** advantages of applying lime as a measure of improving soil condition (2mks)
14. State **four** effects of mass wasting (2mks)
15. Define the following terms as used in crop production. (3mks)
(a) Capping
(b) De – suckering
(c) Changing the cycle
16. List **three** sources of organic matter in the soil (1½mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B (20MARKS)

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

17. (a) The diagram below shows a method of forage preservation



(i) Identify the structure illustrated above (1mk)

(ii) State the form in which the forage is preserved as illustrated above. 1mk)

(iii) Give the role of each of the following in the structure above (2mks)

i. Polythene sheet:

ii. Drainage

(b) Name **one** other method of forage preservation. (1mk)

18. The following table gives the weekly demand and supply schedules of potatoes.

Price per kg (shs)	Demand in millions of kgs	Supply in millions pf kgs
10	23	59
9	30	57
8	36	54
7	41	50
6	45	45
5	48	39
4	50	32
3	51	25

Use the table to answer the following questions

(a) What is the equilibrium price? (1mk)

(b) State the effects of a government imposing a maximum price of:

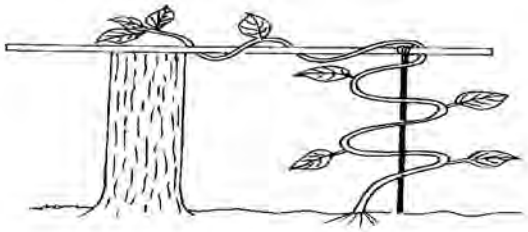
(i) Ksh 5 per kg: (1mk)

(ii) Ksh. 7 per kg: (1mk)

(c) If the government guaranteed a potato supply at price of Ksh . 7 per kg , what quantity would it have to purchase to maintain this price? (1mk)

d) If alternatively the government bought all the potatoes on offer at Ksh. 7 kg , what price would it have to change the consumers to dispose of this quantity? (1mk)

19. (a) The diagram below illustrates a field management practice carried out on a fruit crop.



for free past papers visit www.freekcsepastpapers.com or call: 0720502479

(i) Identify the practice illustrated above. (1mk)

(ii) Give **two** reasons for carrying out the practice illustrated in the above diagram. (2mks)

(b) Give a reason why it is not advisable to use manure in carrot production. (1mk)

20. (a) What is land fragmentation ? (1mk)

(b) State **three** causes of land fragmentation (3mks)

(c) State **two** objectives of settlement and resettlement. (2mks)

SECTION C (40 MARK)

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

21. (a) State and explain any **five** cultural methods of controlling weeds (10mks)

(b) Explain the harmful effects of pests on crops (10mks)

22. (a) Describe field production of dry beans under the following sub headings:

(i) Land preparation: (4mks)

(ii) Planting (6mks)

(b) Explain **five** ways by which a farmer can adjust to risks and uncertainty. (10mks)

23. (a) Describe **ten** safety precautions that should be taken when using herbicides to control weeds. (10mks)

(b) Explain **ten** farming practices which help to conserve soil on a farm (10mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SET4
AGRICULTURE
Paper 2

SECTION A: (30MKS)

1. Name two methods of identification of livestock that do cause pain to the animal. (1mk)
2. Mention two ways in which the gizzard is adapted to its function. (1mk)
3. Give four main causes of livestock diseases. (2mks)
4. Give three reasons that render vaccines ineffective after administration to livestock. (1½mks)
5. Name four main dairy breeds of goats reared in Kenya. (2mks)
6. State three properties of colostrum that make it suitable for feeding young animals. (1½ mks)

7. Give four desirable characteristics of a cow. (2mks)

8. Name four farm implements taken to obtain power from the power take off shaft. (PTO) of a tractor. (2mks)

9. State three reasons for castrating a billy goat. (1½ mks)

10. Identify the following breeds of livestock. (2mks)
    (i) A pig breed with dished face, erect ears and white in colour.....
    (ii) A beef breed cream white in colour usually very heavy with males weighing up to 1200kg
    (iii) A white breed of goat usually with long hair
    (iv) A wool sheep with long curly wool usually cover its face

11. State desirable qualities of whole milk. (2mks)

12. Differentiate the following terms as used in livestock management;
    (i) Out crossing and crossbreeding (1mk)
    (ii) Artificial insemination and embryo transplant. (1mk)
    (iii) Steaming up and flushing in sheep. (1mk)

13. State the parts of a mouldboard plough. (2mks)
    (i) Shear
    (ii) Landside
    (iii) Depthwheel
    (iv) Coulter

14. Give the four main advantages of maintaining farm machines in proper working (2mks)

15. The following are some livestock diseases, anthrax,trypanosomiasis,fascioliasis, gumboro,scours,newscatle,anaplasmosis,coccidiosis,marek and brucellosis.
    (a) Classify the diseases under:
    (i) Viral diseases
    iii) Protozoan diseases

    (iii) Zoonotic

16. Give one main reason for withering lucerne (*Medicago sative*) before feeding to livestock. ($^1/_2$mk)

17. State any two benefits of deworming pigs. (1mk)

18. Name the hormone that influences milk synthesis and let down in lactating cattle.($^1/_2$mk)

19. State the part of digestive system of a rabbit that enables it to digest vegetative feed. ($^1/_2$mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B (20MKS)

Answer all questions in this section in the spaces provided.

20. The diagram below illustrates a common practice in poultry farm.

(a) Name the practice illustrated above ($^1/_2$mk)

(b) List any four abnormalities that can be detected in the practice. (2mks)

(c) Mention any two instances during incubation that the above practice is done. (2mks)

(d) The diagram below shows chicks in a brooder state any unused behavior and how it can be corrected (1mk)

(e) How can a dirty egg be cleaned . ($^1/_2$ mk)

21. The diagram below shows a section of an engine used to provide power in the farm.

(a) Name the parts labeled A, B, and C. (1½ mks)

(b) Identify the stroke shown above. (1mk)

(c) Indicate on the diagram using letter X where compression of fuel mixture occurs.($^1/_2$mk)

(d) Give two uses of lubrication oil in the engine (2mks)

22. Below are some farm tools:

(a) Identify the tools shown above (2mks)

(b) State the functional difference between tools: (2mks)

(i) P and Q

(ii) Q and S

(c) How can you maintain tool S in proper working condition? (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

23. The diagram below shows a fish pond.

(a) Name the parts marked. (1mk)

(b) Stae the use of each part above (1mk)

(c) List four main considerations made when siting the above fish pond. (2mks)

(d) State any one precaution taken in construction of both X and Y to prevent entry of strange fish. (1mk)

SECTION C. (40MKS)

Answer any two questions.

24. (a) State and explain five roles of livestock farming in economic development of Kenya. (10mks)

(b) Briefly explain the functions of workers bees in a bee colony. (5mks

(c) Explain the procedure of harvesting honey. (5mks

25. a) Describe the management of piglets from birth to weaning. (12mks)

(b) Explain the characteristics of a good layer. (8mks)

26. a) Explain the operation of a four stroke cycle engine of a tractor. (15mks)

(b) Explain the functions of the differential in tractor movement. (5mks)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

443/1
AGRICULTURE
PAPER 1
TIME: 2 HOURS

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SET5

INSTRUCTION TO CANDIDATES

- *Write your **name** and **index** number and school, Sign and write the date in the spaces provided above.*
- *This paper consists of **THREE** sections; **A, B** and **C.***
- *Answer **All** the questions in section **A** and **B** in the spaces provided and any **TWO** questions from section **C** in the answer sheet provided*

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 - 17	30	
B	18 - 22	20	
C		20	
		20	
TOTAL SCORE		**90**	

SECTION A (30 MARKS)

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

1. Name the routine field practice done by:
   (a) Removal of extra suckers in banana stool. (½mrk)
   (b) Removal of old stems down to level of top foliage in pyrethrum. (½mrk)
   (c) Removal of suckers from coffee bushes. (½mrk)
2. State **three** characteristics of phosphate fertilizers. (1½mks)
3. State **two** physical properties of soil that influence crop production. (1mk)
4. Outline **four** ways by which crop pests are classified. (2mks)
5. State **three** uses of labour records in Agriculture. (1½mks)
6. Give **four** advantages of overhead irrigation in crop production. (2mrks)
7. List **four** books of accounts kept a crop farmer. (2mrks)
8. Give **four** varieties of tomatoes grown for processing. (2mks)
9. State **four** pasture management practices done to enhance yields per unit area. (2mrks)
10. Name **two** macro -nutrients which classified as: (1mrk)
    (a) Fertilizer elements.
    (b) Liming elements. (1mrk)
11. Give **three** ways by which pruning helps to control disease in crops. (1½mrks)
12. State **four** ways in which weeds are excellently adapted to the environment. (2mrks)
13. State **four** factors that determine the time at which a crop is planted. (2mks)
14. Give **four** factors that affected the effectiveness of a pesticide. (2mrks)
15. State **four** reasons for staking tomatoes in crop production. (2mrks)
16. State **three** cultural methods of soil and water conservation. (1½mrks)
17. State **three** benefits of having a land title deed to a farmer. (1 ½ mrks)

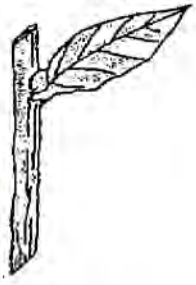
SECTION B. (20 MARKS)

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

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

for free past papers visit: www.freekcsepastpapers.com or call: 0720902479

Website: www.freek scheme at a small fee

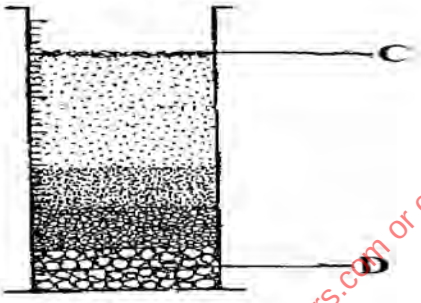


A

B

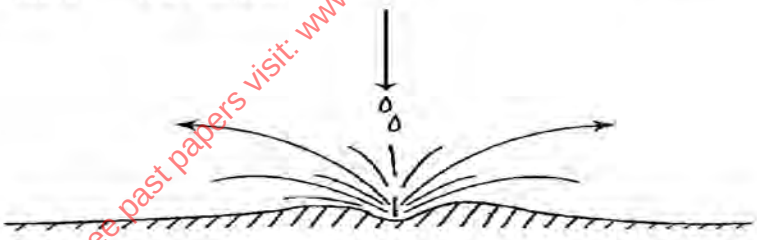
(a) Name the crops (s) propagated by illustrations: (1mrk)
(b) Give **three** factors that promote the rooting of illustration **A.** (3mrks)

19 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)

20. 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)

21. The illustration below represents a financial document . Study it carefully and answer the questions that follow.

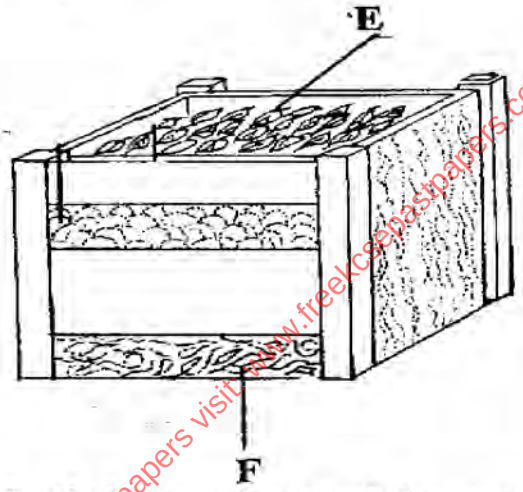
No: 2004 **Date:**
26/07/2013
M/S MUHORONI FARMERS STORE
DR.....ACHEGO FARMERS CO-OP UNION
BOX 2, AWASI

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

	Particular	Quantity	Price per unit	Amount
1.	Layers mash	20 bags	1,200.00	24,000.00
2.	Urea	5bags	3,000.00	15,000.00
3.	Sorghum seeds	10 pkts	300.00	3,000.00
	Delivery details	Total		42,000.00
Discount - None Terms of payment: Cash in 30days upon receipt of goods				Official Stamp & signature

(a) Identify the document illustrated above. (1mrk)
(b) State **two** functions of the document. (2mrks)

22 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 **two** disadvantages of manures. (2mrks)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

SECTION C (40MARKS)

Answer any two questions from this section in the answer sheet provided

23. (a) Describe land preparation for planting of grass seeds. (4mrks)
(b) Describe the role of **six** marketing agencies or institutions in marketing of Agricultural Produce. (12mrks)
(c) Explain **four** benefits of land consolidation in Agricultural production. (4mrks)

24. (a) Describe the field management practices that should be carried out on dry bean production from planting to harvesting. (10mrks)

(b) Explain **five** factors that should be considered when deciding on the depth of planting a seed. (5mrks)

(c) Describe the characteristics of a crop suitable for green manure. (5mrks)

25. (a) Outline the care and management practices done on Agro –forestry trees (5mrks)

(b) Describe the benefits of using certified seeds in crop production. (5mrks)

(c) Describe the safety precautions a farmer should take when using herbicides. (10mrks)

SET5
AGRICULTURE
Paper 2

SECTION A (30MARKS)

Answer all the questions in the spaces provided.

1. Give **two** reasons why docking is an important practice in sheep management. (1mrk)
2. (a) Name the camel breed that is adapted to cooler regions and has wooly body covering. (½mrk)
   (b) Give **one** reason why Friesian's milk is more whitish while Jersey milk is Yellowish. (½ mrk)
3. Give any **two** uses of litter materials in a poultry house. (1mrk)
4. Give **four** advantages of using stones as construction materials. (2mrks)
5. Outline **three** methods of stocking a bee hive. (1½mrks)
6. List **four** way in which vaccines are administered to an animal. (2mrks)
7. Give **four** predisposing factors to livestock diseases. (2mrks)
8. Give **four** functions of proteins in the body of an animal. (2mrks)
9. Name the tool used together with each of the following tools. (1mrk)
   (a) Canula
   (b) Brace
10. Differentiate between flushing and steaming up in livestock management. (2mrks)
11. State **two** roles of drones in a bee colony. (1mrk)
12. Give **two** maintenance practices of a calf pen. (1mrk)
13. Give **two** reasons for teeth clipping in piglets. 1mrk)
14. Give **four** circumstances in which animal power is preferable to tractors power (2mrks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

15. What do you understand by the term raddling as used in sheep management. (1mrk)

16. Name **one** intermediate host in life cycle of a liverfluke. (1mrk)

17. Give any **three** maintenance practices in a green house. (1½mrks)

18. Give **two** faults of ignition system. (1mrk)

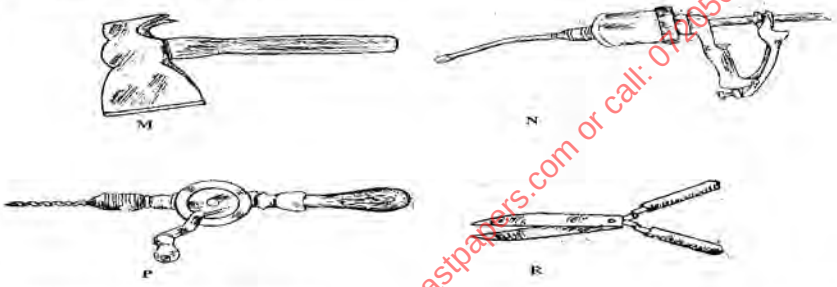
19. Give **four** conditions that the animal structure should meet in order to help incontrolling livestock diseases. (2mrks)

20. Give **six** signs to show that a cow is on heat. (3mrks)

SECTION B (20MARKS)

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

21. Below are illustrations of farm tools and equipment. Study them carefully and answer the questions that follows.

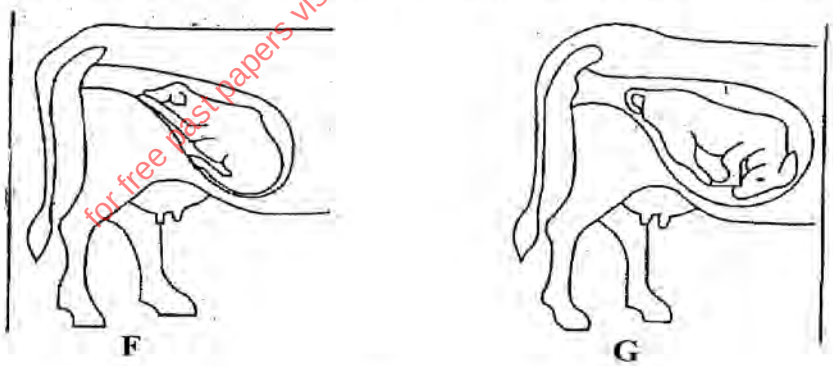


(a) Identify the above tools. (2mrks)

b) State **one** main use of each tool. (1mrk)

(c) Explain **one** maintenance practice carried out on tool **P.** (1mrk)

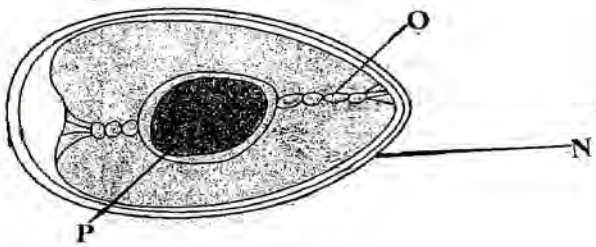
22. Study the diagram below and use them to answer the questions that follow.



(a) Which of the foetus is in the correct position of parturition? (1mrk)

(b) Name the type of parturition for the foetus **F** and **G**. (2mrks)

23. Study the diagram of an egg below and answer the question that follow.



Website: www : marking scheme at a small fee

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

(a) Name the parts labeled: (1½ mrks)

b) State the functions of the parts O and **N.** (2mrks)

(c) Give any **three** qualities of eggs used for incubation. (½ mrks)

24. A farmer to prepare a **200kg** of chick ration containing **20% DCP**. Using person' square method, calculate the amount of maize containing **10%DPC** and sunflower containing **35% DCP** the farmer would need to prepare the ration. (***Show your workings***) (5mrks)

25. (a) Name the method of identification shown below. (1mrk)

(b) Name the tool used for carrying out the above practice. (1mrk)

(c) Name **two** other methods for identifying animals. (1mrk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION C (40MARKS)

Answer any two questions from this section in the answer sheet provided.

26. (a) Discuss milk fever disease under the following headings:

(i) Animal affected. (2mrks)

(ii) Symptoms. (5mrks)

(iii) Control measure. (3mrks)

(b) (i) Describe the life of liverfluke. (7mrks)

(ii) State **three** control measures of liverfluke. (3mrks)

27. (a) State the maintenance service carried out in a tractor. 10mrks)

(b) State and explain **five** factors considered when sitting farm structures. (10mks)

28. (a) Explain the management of growers in deep litter system until the time of laying. (12mrks)

(c) State and explain **eight** materials and equipment used during milking. (8mrks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

443/1
AGRICULTURE
Paper 1
TIME: 2 HOURS

SET6

INSTRUCTIONS TO THE CANDIDATES:

- *Write your **name** and **index number** in the spaces provided.*
- *This paper consists of three section **A,B** and **C***

- *Answer **all** the questions in section **A** and **B***
- *Answer any **two** questions in section **C.***
- *Answers should be written in the spaces provided in this booklet.*
-

For Examiner's Use Only:

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-17	30	
B	18-21	20	
C	22-24	40	
	TOTAL	90	

for free pastpapers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION A (30MKS)

Answer all questions in the spaces provided.

1. State **four** ways by which plant nutrients may be lost from the soil. (2mks)
2. State **two** characteristics of a good root stock for grafting (1mk)
3. Give **three** ways in which land consolidation help to promote sound farm management. (1½mks)
4. State **two** methods of controlling stalk borer. (1mk)
5. Mention **two** forms in which nitrogen is taken by plants. (1mk)
6. State **four** factors that should be considered when designing crop rotation programm (2mks)
7. State **four** advantages of drip irrigation (2mks)
8. Give **three** reasons for forage conservation. (1½mks)
9. Mention **four** aspects of rainfall that influence agriculture. (2mks)
10. Name **two** field practices carried out to obtain optimum plant population in a crop field. (1mk)
11. List **four** suitable sites for planting agro forestry trees (2mks)
12. State **four** factors to consider when deciding type of irrigation to use in the farm. (2mks)
13. List **four** benefits of packaging agricultural commodity (2mks)

14. Outline **four** information contained in an invoice (2mks)

15. State **four** ways of increasing soil fertility (2mks)

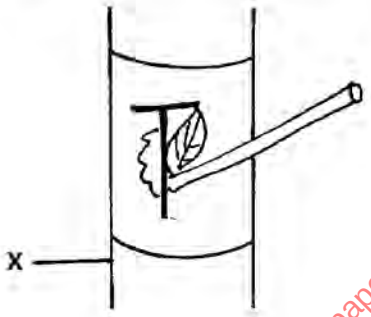
16. Give **four** reasons for proper drying of grains before storage. (2mks)

17. Name a chemical used to achieve the following drying water treatment 3mks)
    a) Coagulation of solid particles
    b) Softening of water
    c) Killing of pathogens.

SECTION B

Answer all questions in the spaces provided.

18. The diagram below represents a method of crop propagation.



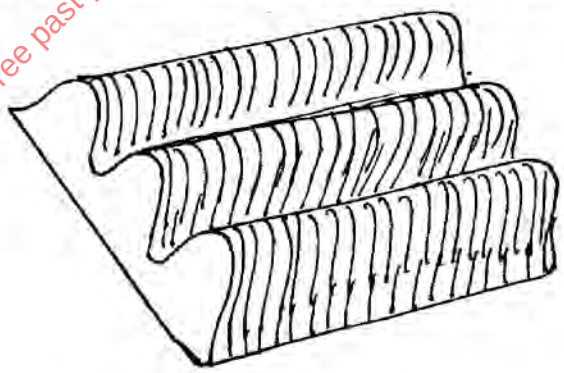
a) Identify the method (1mk)

b) State **two** uses of the adhesive tape in the practice. (2mks)

c) Identify part labeled **X** (1mk)

d) State **four** characteristics of part labeled **X.** (2mks)

19. The diagram below represents a ground surface after a tertiary operation.



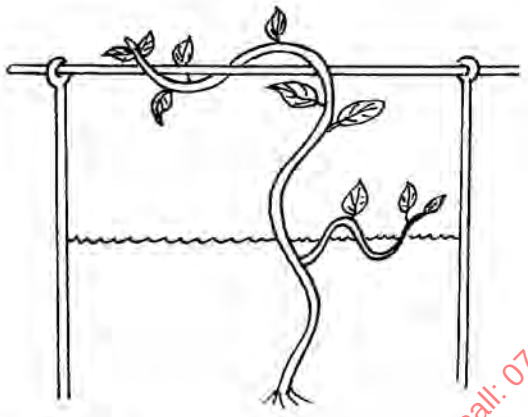
a) Identify the tertiary operation. (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

b) Give **two** types of crops that can be established on the structure above. (2mks)

c) State **three** advantages of using above structure for growth of crops. (3mks)

20. 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. (1mk)

iii) Give **two** reasons for carrying out the practice. (2mks)

21. a) A farmer is to apply compound fertilizer 20:30:10 on a plot measuring 5m x 4m at the rate of 200kg per hectare. Calculate the amount of fertilizer the farmer would require for the plot. (2mks)

b) What do the figures 30, and 10 in the fertilizer stand for (2mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION C (40MARKS)

Answer any two questions in this section.

22. a) Discuss the principle of cooperatives (10mks)

b) A farmer is considering to undertake production of either cotton or beans. Study the following information about the two crops then answer the questions that follow.

Cotton

Yield per hectare	2500kg
Price	Ksh. 10/= per kg
Labour requirement per hacter	100 man day
Cost of labour	25/= per man days
Cost of seeds	100/= per hectare
Cost of SSP fertilizer	2000/= per hectare
Cost of spraying	500/= per hectare
Cost of S.A fertilizer	1500/= per hectare

Beans

Yield per ha	2000kg
Price	12/= per kg
Labour requirement per ha.	15man days
Cost of labour	25/= per man day
Cost of seeds	1000/= per ha.
Cost of SSP fertilizer	1500 per ha.
Cost of sprays	200/= per ha.

a) Calculate gross margin for each crop. From your calculations, identify the crop the farmer should grow. (10mks)

23. b) Describe establishment and management of a pasture crop stand upto grazing time. (10mks)

c) Discuss harmful effects of weeds on crops. (8mks)

d) Classify Herbicides according to formulation. (2mks)

24. a) Explain cultural method used in controlling crop diseases. (10mks)

b) Describe the production of dry beans under the following sub-headings.

i) Weed control (3mks)

ii) Harvesting (3mks)

iii) Marketing (4mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SET6
AGRICULTURE
Paper 2

SECTION A (30MARKS)

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

1. a) List **two** dairy goat breeds (1mk)

   b) Give **two** advantages of keeping a Jersey cow instead of a Friesian. (1mk)

2. Give **two** importance of keeping health records in a farm. (1mk)

3. a) What is pica as used in livestock production. (½mk)

   b) State **three** importance of keeping livestock healthy. (1½mks)

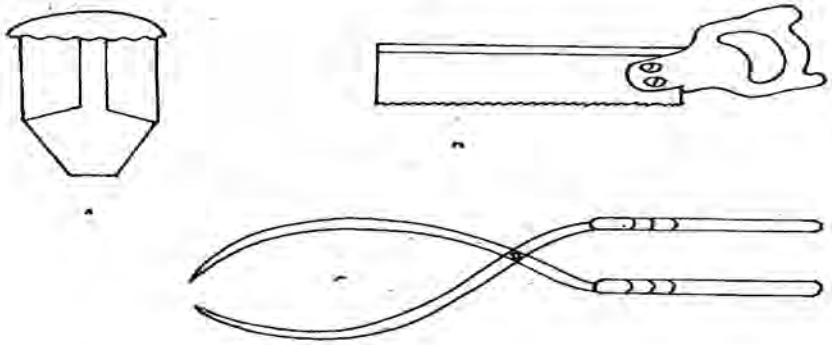
4. Name an intermediate host for each of the following parasites.
   i) Tapeworm (*Taenia solium*) (½mk)
   ii) Liver Fluke (*Fasciola hepatica*) (½mk)
5. a) Name the type of breeding system represented below. (½mk)
   Ayrshire Sire x Boran Dam ⟶ F1 Heifer x Hereford
   b) Outline **two** characteristics of livestock that are used in mass selection. (1mk)
6. State **four** management practices that would ensure maximum harvest of fish from a fish pond. 2mks)
7. Distinguish between crutching and ringing as used in livestock production. (1mk)
8. Give **four** reasons why young Lambs should be docked (2mks)
9. a) State **three** disadvantages of natural incubation in poultry production (1½mks)
   b) Why is it necessary to supplement domestic poultry diet with grit. (½mk)
10. Name **four** properties of a good vaccine (2mks)
11. State **four** factors considered when formulating a livestock ration. (2mks)
12. Name **two** Larval developmental stages of liver fluke that occur outside the intermediate host. (1mk)
13. List **four** methods of preserving fish after harvesting. (2mks)
14. Mention **three** ways that indigenous livestock farmers use to improve their cattle. (1½mks)
15. Differentiate between
    i) Gilt and Sow (1mk)
    ii) Marking gauge and mortise gauge. (1mk)
16. Outline **three** possible causes of damage to the hide of cattle when the animal is alive. (1½mks)
17. Highlight **three** functions of ventilation in an animal house. (1½mks)
18. State **four** factors that determine the power output in an animal. (2mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B (20MARKS)

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

19. The diagram below represents farm tools.

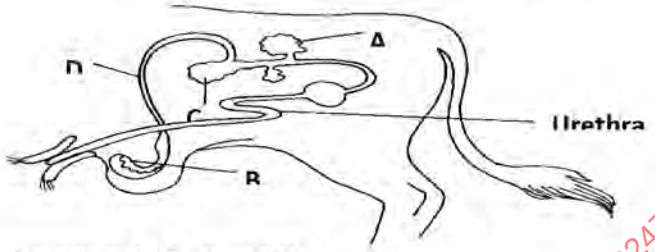


i) Identify the tools labelled **A** and **B** (1mk)

ii) Give **one** use of each of the tools mentioned in (i) above (2mks)

iii) Give the **two** maintenance practices which should be carried out on tool **C** (2mks)

20. Study the illustration below and use it to answer the questions below.

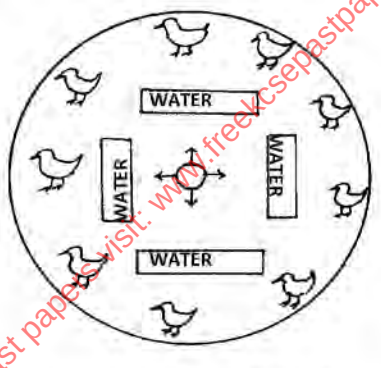


a) Label the parts **A, B, C** and **D** (2mks)

b) Give the functions of parts **B** and **C** (2mks)

c) Give the name of the part in the animal affected when the animal is attacked by brucellosis. (1mk)

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



i) Name the structure illustrated above. (1mk)

ii) Why should structure be round and not rectangular or square shaped. (1mk)

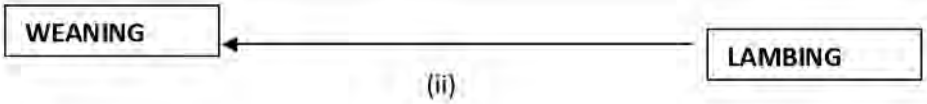
iii) Describe the heat situation in the structure. (1mk)

iv) Give **one** reason to support your answer in (iii) above. (1mk)

Why is saw dust not suitable for use as litter in the structure. (1mk)

22. Below is a breeding cycle of a ewe in relation to the feeding regime accompanying it. Use it to answer the following questions.

for free past papers visit: www.freekcsepastpapers.com or call 0720502479



(ii)

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

23. a) Mention **ten** signs Which aspects of nutrition are (3mks)
    b) Give **two** importance of (i) (2mks)

SECTION C (40MARKS)

a) Five diseases of internal parasites attack in livestock. (10mks)
b) Explain the factors to consider when planning a farm layout. (10mks)
24. a) Describe **ten** maintenance practices carried out on a tractor (10mks)
    b) Discuss the management of layers in a deep litter system. (10mks)
25. a) Describe **five** design requirement of a calf pen. (10mks)
    b) Describe Milk Fever disease under the following sub headings.
    i) Animals affected (2mks)
    ii) Symptoms (5mks)
    iii) Control and treatment (3mks)

for free past papers visit: www.freekcsepastpapers.com or call 0720502479

443/1
AGRICULTURE
Paper 1
TIME: 2 HOURS

SET7

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index** number in the spaces provided*
- *Sign and write the date of examination in spaces above*
- *This paper consists of **three** sections; **A, B** and **C.***
- *Answer **all** questions in section **A** and **B** and any other **two** questions in section **C** in the spaces provided*

For Examiner's Use Only

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 - 19	30	
B	20 - 23	20	
C	24 25 26	20 20 20	
	TOTAL SCORE	**90**	

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION A (30MARKS)

Answer all questions in this section in the spaces provided

1. State **four** ways by which plant nutrients may be lost from the soil (2mks)
2. Give **two** harmful effects of high population density in a maize crop grown for grain production. (1mk)
3. State **three** conditions under which the opportunity cost is zero in a farming enterprise

(1½mks)

4. (a) Name **three** product relationship in agriculture economics (1½mks)

(b) Explain the following terms as used in agricultural economics (1mk)

(i) Production function
(ii) Equi – marginal returns

5. State **four** objectives of land settlement which have been undertaken in Kenya. (2mks)
6. (a) State **two** factors that influence the supply of casual labour in a farm. (1mk)
(b) State **three** ways in which a farmer can adjust to risks and uncertainities. (1½mks)
7. (a) Give **two** roles of micro-organisms in the soil that are beneficial to crops. (1mk)

(b) State **three** properties of soil that are influenced by its texture. (1½mks)

8. What is meant by the term "changing the cycle" in coffee growing? (1mk)
9. State **four** functions of calcium in plant growth and development. (2mks)
10. State **four** factors that contribute to the competitive ability of the weeds. (2mks)
11. State **two** non - chemical methods of controlling storage pests in a maize granary. (1mk)
12. Name **three** branches of horticulture. (1½mks)
13. Give **three** advantages of tissue culture in crop production. (1½mks)
14. State **four** ways in which burning of vegetation may lead to loss of soil fertility. (2mks)
15. Give **two** ways in which pastures are classified. (1mk)
16. State **four** financial documents that should be kept on a farm. (2mks)
17. State **four** disadvantages of using organic manure in crop production. (2mks)

for free past papers visit: www.freekcsepastpapers.com or call 0710502479

SECTION B (20MARKS)

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

18. If the recommendation is to apply 42kg of N/ha and the farmer owns two hectares of land, how much would it cost him to provide sulphate of ammonia (21%N) at a rate of Kenya shillings 1,500 per 50kg bag. (3mks)

19. Two maize pests are shown in the diagram

Website: www.freekcse : the marking scheme at a small fee

below. Study them and answer the questions that follow.

X Y

a) Identify the pests in the diagrams labeled **X** and **Y** (1mk)

b) At what stage of maize production does each pest damage the crop. 2mks)

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

20. The diagram shows a management practice carried out on certain crops

(a) Identify the practice. (1mk)

(b) Name **three** examples of crops in which the above practice can be applied.

(1½mks)

(c) State **three** reasons for carrying out above practice. (1½mks)

21. The following account of information is from Mr. Ongoros farm for the year ended 31/12/2012.

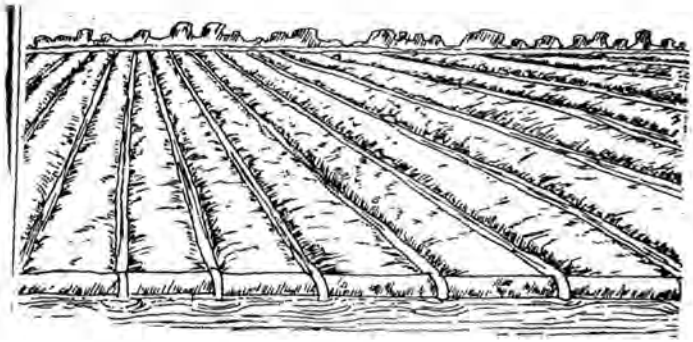
Opening valuation	Ksh. 6,000
Paid wages	Ksh. 5,000
Bought equipments worth	Ksh. 4,000
Sold mature pigs worth	Ksh. 7,000
Bought drugs worth	Ksh. 3,200
Sold maize worth	Ksh. 3,000
Closing valuation	Ksh. 4,000

(i) Using the information above, prepare a profit and loss account for Mr. Ongoro's farm. (4mks)

(ii) From the calculation in (i) above, state whether Mr. Ongoro made a profit or loss. (1mk)

for free pastpapers visit: www.freekcsepastpapers.com or call: 0720502479

22. 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)

SECTION C (40MARKS)

Answer any two questions from this section

23. (a) Explain the precautions that should be observed during the harvesting of pyrethrum (4mks)

(b) Outline **four** advantages of raising tomato seedlings in a nursery (4mks)

(c) Describe field production of dry maize under the following sub headings

(i) Ecological requirements (2mks)
(ii) Selection and preparation of planting materials (2mks)
(iii) Land preparation (2mks)
(iv) Field practices (3mks)
(v) Harvesting (2mks)

24. (a) Explain **four** factors that should be considered when selecting seeds for planting (8mks)

(b) State and explain **four** advantages of minimum tillage in crop production

(c) List various methods of harvesting water in farm (4mks)

25. (a) Discuss **ten** cultural methods of crop pest control (10mks)

(b) Explain **five** practices that maintain good soil structures (5mks)

(c) Describe **five** factors that effect the rooting of sugarcane cuttings (5mks)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

SET7

Paper 2

Answer all questions in this section

1. State the use of each of the following tools in bee production.
   (a) Swarm net (½mk)
   (b) Catcher box (½mk)
2. List **two** dairy goats. (1mk)
3. a) State **one** chemical used in relieving a ruminant animal of bloat (½ mk)

   (b) State **two** reasons why drenching alone is not an effective method of controlling internal parasite in livestock. (1mk)
4. (a) State the class of each of the following feedstuff
   (i) Molasses (½mk)
   (ii) Mac Lick (½mk)
   (b) Name the type of breeding system represented below.
   Ayrshire sire x Boran Dam ⟶ F1 heifer x Hereford. (½mk)
5. Give **three** importance of flushing in sheep management. (1½mks)
6. (a) Name the causative organism of Gumboro disease. (½mk)
   (b) State **two** symptoms of coccidiosis infection in poultry. (1mk)
7. State **two** differences between the dromedary and Bactrian breed of camels. (2mks)

Dromedary	Bactrian
(i)	(i)
(ii)	(ii)

8. State **one** way by which each of the following practices help in disease control. (2mks)
   (a) Proper feeding.
   (b) Proper housing
9. (a) State **three** effects of tsetsefly infestation. (1½mks)
   (b) State **two** ways of controlling tse tse flies. (1mk)

   (c) Give **one** reason why tse tse fly control is considered as land reclamation method. (½mks)
10. State **two** ways in which a production ration may be utilized by cattle. (1mk)
11. Name **two** diseases in cattle that may be spread through breeding. (1mk)
12. (a) Under what conditions would a farmer prefer to use an ox – cart instead of a tractor – drawn trailer. Give **three** reasons. (1½mk)
    (b) Name **three** implements that may be connected to power take off shaft of a

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

tractor. (1½mks)

13. Name a pig breed with white colour on feet, nose and tail. (½mk)
14. State **three** importance of keeping livestock healthy. (1½mks)
15. Name **three** importance of lubricating system in tractor. (1½mks)
16. (a) Name **three** mechanical methods of controlling ticks. (1½mks)
    (b) Name the intermediate host of liver fluke. (½mk)
17. Name **three** methods of livestock selection. (1½mks)

18 (a) Distinguish between crutching and ringing as used in livestock production. (1mk)
(b) Give a reason for packing eggs with the broadside upwards in the egg tray. (½mk)

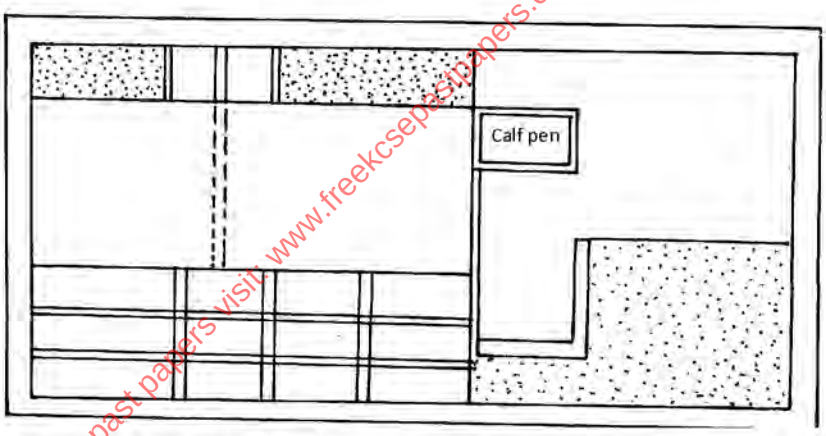
19. (a) State **two** conditions, which would make it necessary to feed bees. (1mk)
    (b) Name **two** faults of ignition system of a tractor. (1mk)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

SECTION B (20MARKS)

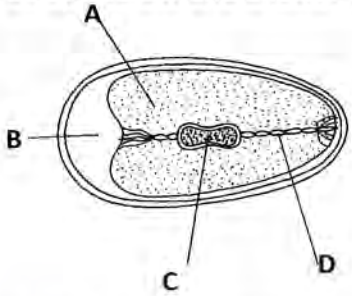
Answer all the questions in this section

20. Below is a layout of an animal housing. Study it and answer the questions that follow



(i) Identify the structure. (1mk)
(ii) Name the parts labeled **2, 3, 4**. (3mks)
(iii) What is the role of the parts labeled **3.** (1mk)

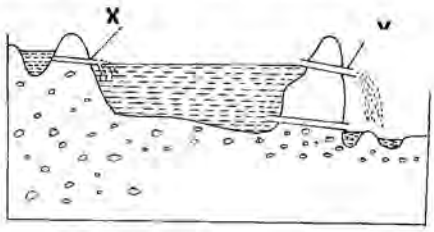
21. Study the diagram of an egg below and answer the questions that follow.



(a) Name the parts labeled **A, B, C** and **D.** (4mks)

(b) State the roles of parts labeled **A** and **D** during incubation. (2mks)

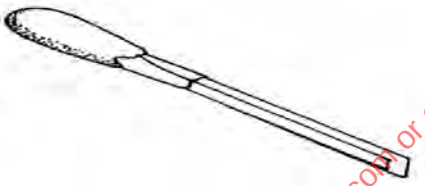
22. Drawn below is a diagram of a fish pond.



a) (2mks)

(b) rried out on a fish pond **Y.** (3mks)

23. Below is a diagram of a farm tool.



a) Identify the tool. (1mk)

b) State the use of the tool. (1mk)

c) List **two** maintenance practices carried out on the tool. (2mk)

SECTION C (40 MARKS)

Answer any two question

24. (a) Discuss the essentials of clean milk production (14mks)

(b) Name the common poultry vices and outline their control (6mks)

25. (a) State **six** advantages of farm mechanization (6mks)

(b) Discuss the maintenance practices carried out on a tractor (10mks)

(c) List **four** strokes in a 4 – stroke cycle engine (4mks)

26. Explain the measure used to control;

(a) Livestock diseases (4mks)

(b) Livestock parasite (6mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

443/1
AGRICULTURE
Paper 1
Time: 2 Hours

SET8

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index number** in the spaces provided above.*
- *Sign and write the date of examination in the spaces provided above.*
- *This paper consists of three section **A,B** and **C***
- *Answer **all** the questions in section **A** and **B** any **two** questions from section **C.***
- *Candidate should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*

Instructions to candidates

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-18	30	
B	19 - 23	20	
C		20	
		20	
TOTAL SCORE		90	

Website: www.freekcsepastpapers.com . Call: 0720502479 to get the marking scheme at a small fee

SECTION A: (30MARKS)

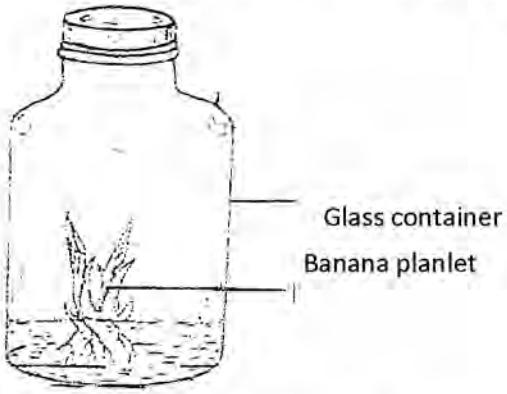
1. State **four** factors that determine the choice of water pipes used in the farm. (2mks)
2. (a) State **three** causes of blossom end- rot diseases in tomatoes. (1 ½mks)
   (b) Give **two** factors that induce forking in carrots. (1mk)
3. Give **three** effects of diseases on crop production. (1 ½ mks)
4. Name **four** classes of pesticides according to the mode of action. (2mks)
5. State **two** factors that determining the quality of compost manure. (1mk)
6. Give **two** properties of the soil that are influenced by the soil texture. (1mk)
7. State **four** ways of improving farm labour productivity. (2mks)
8. Name **four** types of financial books. (2mks)
9. Distinguish between over sowing and under sowing as used in pasture establishment. (1mk)
10. (a) State **two** disadvantages of shifting cultivation. (1mk)
    (b) List **three** activities carried out in secondary cultivation. (1mk)
11. Name **four** methods of treating the seeds before planting. (2mks)
12. State **four** roles of trees in soil and water conservation. (2mks)
13. Give **four** government policies that influence agricultural production in Kenya. (2mks)
14. Sate **two** advantages of tenancy system in farming. (1mk)
15. List **four** sites for agro forestry trees and shrubs in the farm. (2mks)
16. Give **three** factors that determine the competitive ability of weeds. (1 ½ mks)
17. State **two** field practices that could be carried out to maximize the use of nitrogenous fertilizer in maize field. (1 mk)
18. State **two** cultural measures of controlling maize streak diseases. (1mk)

for free past papers visit www.freekcsepastpapers.com or call 0720502479

SECTION B (20MARKS)

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

19 The diagram below shows a banana tissue culture. Study it and answer the questions that follow.



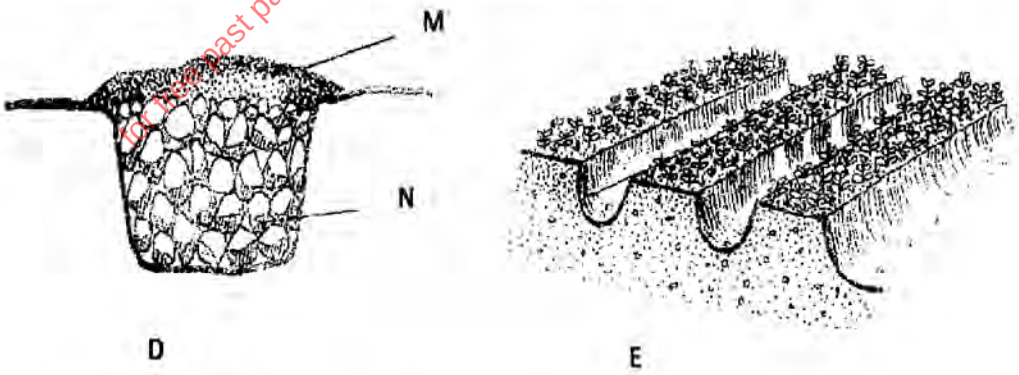
(a) Name **two** ways of inducing the rooting of plantlets. (1mk)

(b) Outline **three** steps followed in the development of tissue culture. 3mks)

(c) State **two** advantages of propagating crops by tissue culture technique. (1mk)

20. A farmer has 16 hectares of land .6 ha under permanent pasture. He plans to grow 6 hectares of beans . In the previous seasons, the hired casual workers at the rate of 80 man days per hectares. The cost was kshs. 30 per man – day. This seasons he intends to hire a tractor to open the land at a cost of ksh.600 per hectares . He thinks that using a tractor will increase bean production from 800 to 1200kg/ha . Harvesting will cost kshs. 6 per kg of beans seeds and the price of beans will be kshs. 60/kg. Draw up a partial budget to show whether the change would be worthwhile. (5mks)

21. The diagram **D** and **E** below illustrate some methods of draining waterlogged soils . Study hem and answer the questions that follow.



D **E**

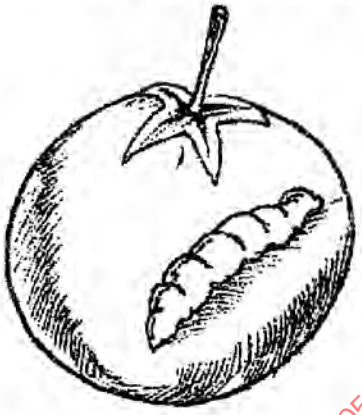
(a) Identify the methods illustrated. (1mk)

(b) Name the material used in **D** labeled **M** and **N.** (2mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(c) A part from the methods illustrated above, name any other **two** ways of draining a waterlogged soil. (1mk)

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

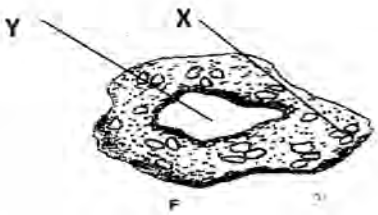


(a) Identify the crop pest illustrated above. (½ mk)

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

(c) State **two** ways of controlling the pest. (1mk)

23. The diagram below illustrate some soil structures. Study them and answer the questions that follow.



(a) Identify the soil structures **F** and **G.** (1mk)

(b) Name the part labelled **X** and **Y** in diagram **F.** (1mk)

(c) State **two** ways through which structure **G** influence crop production. (2mks)

SECTION C (40MARKS)

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

24. (a) Outline **five** activities that may be undertaken in minimum tillage. (5mks)

(b) State the qualities of a good farmer manager. (5mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(c) Explain **five** ways in which farmers may overcome risks and uncertainties in a farming business. (10mks)

25. (a) Describe **five** functions of agricultural marketing. (10mks)
(b) Explain the **four** types of water erosion. (4mks)
(c) Describe the nursery preparation and establishment in rice production. (6mks)

26. (a) Describe **five** factors that influence the demand of agricultural products. (10mks)
(b) Outline the different methods of pasture conservation and utilization. (5mks)
(c) Give reasons for raising vegetable seedlings through a nursery. (5mks)

SET8

Paper 2

1. (a) Name the causative organisms of pneumonia in calves (1mks)
(b) State **two** symptoms of pneumonia in calves (2mks)
(c) Give **two** ways of controlling pneumonia in calves (2mks)

2. (a) Which tool will be required for the following farm operations?
(i) Cutting wool sheep (1mk)
(ii) Castrating piglets (1mk)
(b) Give **four** reasons why feeding of colostrums is important in rearing of piglets. (2mks)

3. Give **three** conditions under which a famer may prefer to use an Ox-cart instead of a tractor drawn trailer? (3mks)
4. Give **four** factors that should be considered when siting a beehive in a farm (2mks)
5. State **four** management practices that would ensure maximum harvest of fishing from fishpond (2mks)
6. Give **two** predisposing factors to foot-rot diseases in sheep (2mks)
7. What is the intermediate host for liver fluke? (1mk)
8. Give **two** causes of soft shells in eggs (1mk)
9. List **four** factors associated to the animal that determines the amount of feed animals consumed (2mks)
10. Give **four** reasons why young rams should be docked. (2mks)
11. List **four** cattle diseases caused by virus (2mks)
12. State any **two** disadvantages that may arise from in breeding in livestock production (2mks)
13. Give **two** signs that would show that a doe is just about to give birth (2mks)

SECTION B (20MARKS)

Answer ALL the questions in this section in the spaces provided

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

14. Study the diagrams below labeled **P**, **Q**, **R** and **S** representing some workshop tools and answer the questions that follow.

(a) Identify the tools (2mks)

Tool	Name
P	
Q	
R	
S	

(b) Give **one** use of tools **P** and **R** in the construction of a wooden feed trough (1mk.

(c) How would the tool labeled **Q** be used in the construction of a pen? (1mk)

(d) Give **two** maintenance practices carried out on tools (1mk)

15. Study the structure below and answer the questions that follow

(a) Name the structure above (1mk)

(b) Name the parts labeled (2mks

(c) State the functions of parts labeled

16. The diagram below represents livestock parasites

(a) Identify the parasites **Y** and **Z** (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(b) In which organ in livestock is parasite **Z** found? (1mk)
(c) How is parasite **Z** passed from livestock to human being (1mk)
(d) Give **two** control measures of each parasite (2mks)

17. The diagram below shows farm equipment. Study it carefully and answer the questions that follow.

(a) Identify the equipment (½mk
(b) Name the parts labeled **C** and **D** (1mk)
(c) Give the use of the parts labeled **E** (½mk)
(d) State **three** conditions that must prevail in the equipment shown to make it suitable for its functions
(e) Give **three** disadvantages of using the above equipment by small scale farmer (1 ½mks)

SECTION C (40MARKS)

Answer only TWO questions on the separate answer sheets provided:

18. (a) Explain the factors to consider when siting farm structures (5mks)
(b) Explain the use of the fences in the farm (8mks)
(c) Give the advantages of live fences (7mks)

19. (a) Describe mastitis disease in dairy cattle under the following sub-headings:
(i) Casual organisms (1mk)
(ii) Predisposing factors (7mks)
(iii) Symptoms (4mks)
(iv) Control measures (8mks)

20. (a) Describe the **four** stroke cycle of petrol cycle engine (10mks)
(b) State the disadvantages of using animal power on the farm (5mks)

for free past papers visit: www.freekcsepastpapers.com or call 0720502479

SET9

443/1
AGRICULTURE
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *Write **your name, index number** and **school** in the spaces provided.*
- *Sign and write the date of the examination in the spaces provided.*
- *This paper consists of **three** sections; **A, B** and **C.***
- *Answer **all** questions in section **A** and **B.***
- *Answer any **two** questions in section **C.***
- *All answers **must** be written in the spaces provided.*

For Examiner's Use Only:

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATES' SCORE
A	1 - 17	30	
B	18 – 21	20	
C		20	
		20	
	TOTAL SCORE	**90**	

for free past papers visit: www.freekcsepastpapers.com or call 0720502479

SECTION A (30 MARKS)

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

1. What is the importance of taking farm inventory? (1 mark)
2. State **four** factors that determine the choice of a crop enterprise. (2 marks)
3. Calculate the amount of P_2O_5 in 1000 kg of a compound fertilizer 20:10:10 (2 marks)

4. Give **four** farming practices leading to soil loss. (2 marks)

5. a) What is organic farming? (½ mark)
   b) Give any **two** conditions that lead to small scale farming. (1 mark)

6. List **three** factors that contribute to competitive ability of weeds. (1 ½ marks)

7. State **three** ways in which pruning helps to control diseases in tomatoes. (1 mark)

8. a) Give **three** ways through which minerals can be lost in the soil. (1 mark)
   b) State any **three** deficiency symptoms of phosphorous in crop production. (1 ½ mark)

9. Give **four** reasons for using certified seeds for planting. (2 marks)

10. a) State **three** effects of plant diseases on crop production. (1 ½ mark)
    b) Name **two** diseases of maize. (1 mark)

11. List **four** functions of Coffee Board of Kenya. (2 marks)

12. a) Define the term land reform. (½ mark)
    b) State **three** advantages of land consolidation (1 ½ mark)

13. a) Distinguish between a dam and a weir. (1 mark)
    b) Give any **four** cultural methods used in soil and water conservation. (2 marks)

14. Differentiate between hybrids and composites as used in maize breeding. (1 mark)

15. What is rogueing as used in crop production. (½ mark)

16. State **three** reasons why a farmer should diversify his farm enterprises. (1 ½ mark)

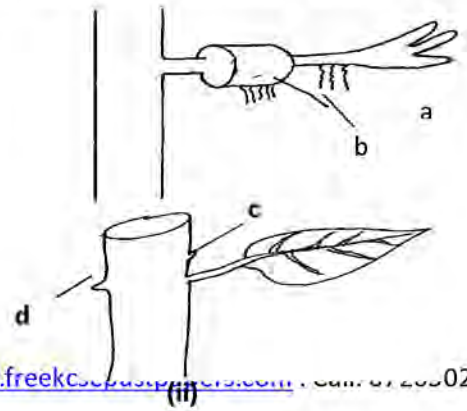
17. State **four** advantages of organic mulches. (2 marks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B (20 MARKS)

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

18. Study the illustration below and answer the questions underneath.



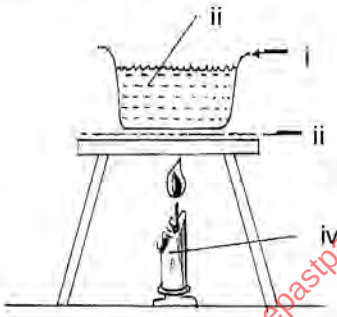
(ii)

a) Identify the above illustrations (1 mark)

b) Name the parts labelled a,b,c and d (2 marks)

c) Name **two** other methods of vegetative propagation in each case give an example of a crop propagated using the method.
(2 marks

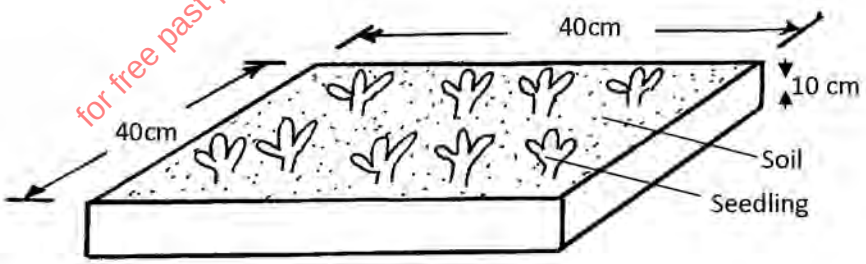
19. The diagram below shows a set up of apparatus for finding the percentage of humus contents in a soil by ignition.



a) Label the apparatus (2 marks)

b) Outline the steps followed in carrying out the illustrated experiment. (3 marks)

20. Observe the following diagrams and answer the questions that follow.



a) i. Name the type of structure above used to prepare seedlings. (1 mark)

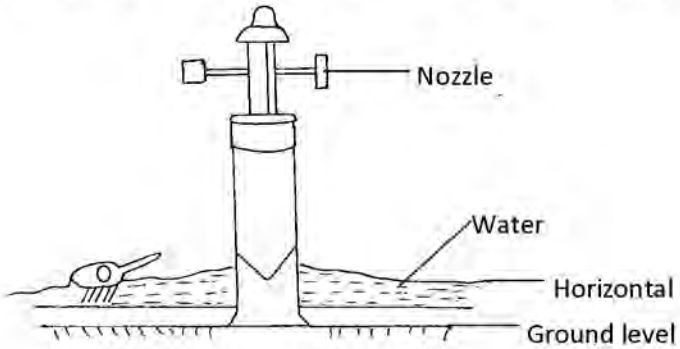
ii. State **three** advantages of this method of preparing seedlings. (1 $^{1}/_{3}$ marks)

a. i. After sowing seeds give two practices carried out before seedling germinate.
(1 mark)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

iii) Give **three** management practices that should be carried out to increase the survival of seedling in the seedbed before transplanting. (1 ½ marks)

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



a) Name the method of irrigation illustrated above. (½ mark)
b) State **two** advantages of this method of irrigation. (1 mark)
c) State **three** problems encountered by farmers using this method of irrigation (1 ½ marks)
d) Give **four** factors which determine the choice of the method named in (a) above. (2 marks)

SECTION C (40 MARKS)

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

22. a) Describe field production of tomatoes under the following sub-headings.
i) Ecological requirements (5 marks)
ii) Land preparations (4 marks)
iii) Transplanting (7 marks)
iv) Disease control 4 marks)

23. a) Outline the factors a farmer would consider before selecting a farm enterprise to undertake. (10 marks)

b) The farm manager of Kilimo farm made the following purchases in December 2004.

-Seeds and fertilizers 2,500/=
-disc plough 80,000/=
-Fuel 5,000/=
-Poultry feeds 4,500/= and
-Cattle drugs 2,000

During the year the farm sold maize to Njoro girls for 20,000; milk processor for Shs. 40,000. Kilimo farm also expected Shs. 8,000 from a prominent neighbouring farmer for ploughing the land. The opening valuation was Shs. 50,000 and closing valuation Shs. 80,000.

Using the information provided above, prepare Profit and Loss account for Kilimo farm. (10 marks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

24. a) Discuss factors that should be put into consideration while choosing suitable implements for primary cultivation. (10 marks)

b) Describe how you would establish grass pasture seeds on land that is already ploughed using a Mouldboard plough, up to when the pasture is ready for grazing.

(10 marks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

Set9

Paper 2

SECTION A:

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

1. Study the table below and fill in the missing words. (3 marks)

Description	Cattle	Pigs	Poultry
Young from birth/ hatching to weaning			Chick
Young female before first parturition / laying		Gilt	
Mature male for breeding	Bull		

2. Give **two** causes of scouring in calves. (1 mark)
3. Name one intermediate host for each of the following livestock parasites.
   a) Liverfluke *(Fasciola spp)* (½ mark)
   b) Tapeworm *(Taenia spp)* (½ mark)
4. Why is raddling essential in sheep management ? (1 mark)
5. State **four** limitations of using hydroelectric power on the farm. (2 marks)
6. Differentiate between the following tools.
   a) Bastard file and rasp file. (1 mark)
   b) Copying saw and hack saw (1 mark)

7. State **four** ways of restraining cattle during routine management. (2 marks)

8. a) Name **four** breeds of dairy goats. (2 marks)

b) Mention **two** distinguishing characteristics of the bactrian camel breed. (1 mark)

9. a) Give **four** symptoms of milk fever. (2 marks)

b) State **two** methods of controlling milk fever. (1 mark)

10. Name **four** systems of a tractor engine. (2 marks)

11. a) Give **two** reasons for using litter in a poultry house. (1 mark)

b) Name **two** diseases of poultry that are controlled by vaccination. (1 mark)

12. List **three** types of calf pens. (1 ½ mks)

13. Give **four** reasons for feeding a lamb on colastrum. (2 marks)

14. State **two** factors that would determine the width and depth of a cut- off drain. (1 mark)

15. A deep litter poultry house measures 9m x 3m. Suppose the amount of space allowed for one bird is 0.27m^2, calculate the number of birds that can be kept comfortably in this house. Show your working. (2 marks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B 20 MARKS

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

16. The diagrams labelled A and B below shows the teeth arrangement in hand workshop tools.

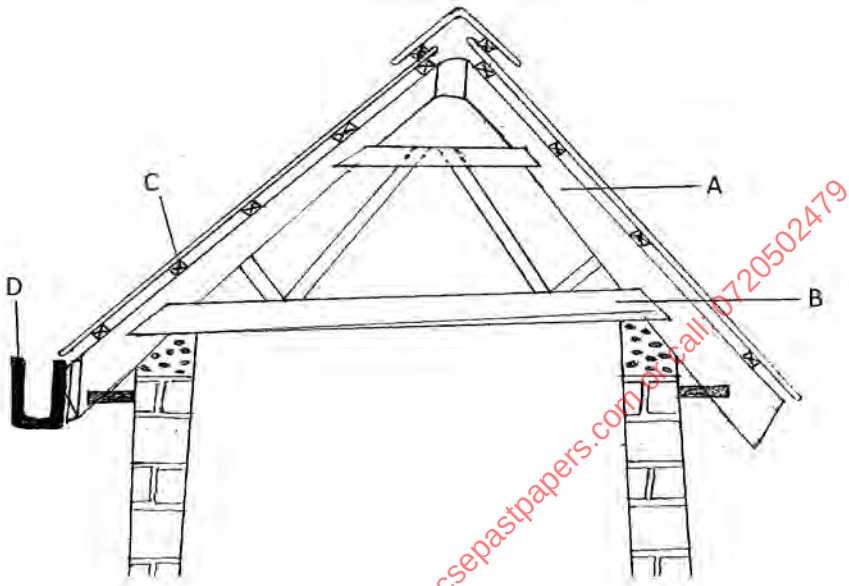
A .

B.

a) Identify the tools represented with by the teeth arrangements A and B. (2 marks)

b) State **one** functional difference between tools represented by the teeth arrangement **A** and **B**.
(2 marks)

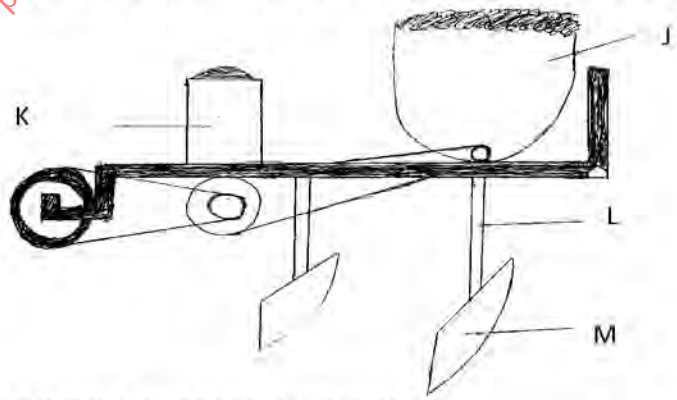
17. Study the illustration below and answer the questions thereafter.



a) Identify the parts labelled A,B,C, and D (2 marks)

b) State **two** reasons why it is important to have the structure labelled D at the edge of the roofing materials. (2 marks)

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

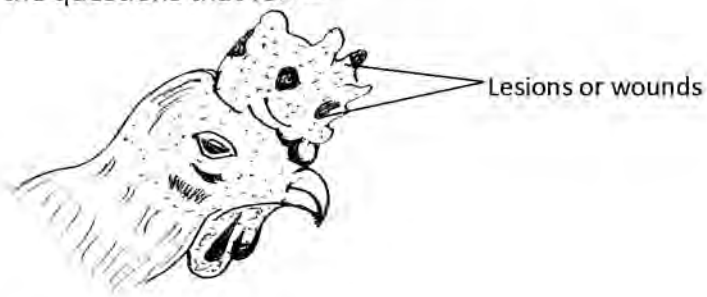


a) Identify the parts labelled J, K,L and M. (4 marks)

b) State **two** maintenance practices carried out on a planter. (2 marks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

19. The following diagram illustrates a symptom of a disease in poultry. Study it carefully and answer the questions that follow



a) Identify
i) The disease (1 mark)
ii) The causal organism (1 mark)
b) Apart from lesions, state **two** other symptoms of the disease. (2 marks)
c) State **two** control measures of the disease. (2 marks)

SECTION C (40 MARKS)

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

20. a) What are the advantages of farm mechanization. (6 marks)
b) Explain the differences between a 'petrol' and 'diesel' engine. (6 marks)
c) Outline the short term services that should be carried out on a farm tractor. (8 marks)

21. a) Describe cattle management at dipping. (8 marks)
b) State **six** maintenance practices of a plunge dip. (6 marks)
c) Give **six** parts of a zero-grazing unit. (6 marks)

22. Discuss embryo transplant technology in Kenya. (20 marks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

Set10

443/1

AGRICULTURE

PAPER 1

2 ½ HOURS

INSTRUCTION TO CANDIDATES

- *Write your name and index number in the spaces provided above*
- *Sign and write the date of examination in the space provided*
- *This paper consists of **THREE** section **A, B,** and **C***
- *Answer **ALL** questions in section **A** and **B***
- *Answer any **TWO** question in section **C***
- ***ALL** the questions should be answered in the space provided*
- *Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing*

Section	*Question*	*Maximum score*	*Candidate score*
A	*1-19*	*30*	
B	*20-25*	*20*	
C		*20*	
		20	
	TOTAL	*90*	

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION A: (30 MARKS

Answer ALL the in this section in the spaces provided.

1. a). What is land fragmentation in farming? (½ mark)
   b) State two causes of land fragmentation in Kenya since independence (1mk)
2. State four advantages of using organic matter for mulching. (2mks)
3. State four reasons for practicing crop rotation. (2mks)
4. Give two advantages of growing one type of annual crop on the same piece of land continually. (1mk)
5. State four factors that may determine the number of cultivation when preparing a seed bed. (2mks)
6. State four methods of improving labour productivity on a farm (2mks)
7. Explain the following terms as used in agricultural economics. (2mks)
   i) Marginal Returns
   ii) Gross Domestic product (G D P)
   iii) Opportunity cost
   iv) Per capital income
8. Mention two ways by which soil PH may affect crop production (1mk)

9. Give two mechanical methods of separating soil particles according to size during soil analysis.(1mk)
10. Mention four factors which affect the quality of hay (2mks)
11. Give one possible cause of swelling on the root of bean plants. (½ mk)
12. Mention two soil factors which influence soil productivity. (1mk)
13. Give four factors which influence solifluction. (2mks)
14. List four factors that affect the selectivity of herbicides (2mks)
15. List down four benefits that a farmer may derive from agro forestry trees (2mks)
16. Give two types of product-product relationship in agricultural economics. (1mk)
17. Mention four activities carried out by young farmers clubs in Kenya (2mks)
18. Give four deficiency symptoms of phosphorus in crops. (2mks)
19. State two characteristics of a good rootstock for grafting (1mk)

SECTION B (20 MARKS)

Answer ALL the questions in this section in the spaces provided

20. Below is a diagram of a bird labelled A, which is a crop pest.

(i) Identify the bird (½mk)

(ii) **State two** ways by which the bird causes loss in crops. (1mk)

(iii) **State four** methods which are used to control the pest. (2mks)

21. Below is a diagram of money maker tomato plant labeled **B**

for freekcsepastpapers visit: www.freekcsepastpapers.com or call 0720502479

B

i) Identify **any two** management practices that have not been carried out on the tomato plant (1mk)

ii) **State two** problems that may arise as a result of not carrying out the management practices you have indentified (i) above (1mk)

iii) The diagram below shows a weed plant labeled **C.**

C

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

i) **Identify** the weed plant (½mk)

ii) **State two** reasons for controlling the weed labeled C in a crop field. (1mk)

iii) **State one** herbicide that can be used to control the weed in a field of growing maize. (1mk)

iv) At what stage of growth of maize should a post emergence herbicide be applied? (½mk)

iv) i) What is a cut off drain? (½mk)

(ii) Describe the procedure of constructing a cut off drain. (2mks)

v) **State one** factor that would determine the width and depth of the cut- off drain (½mk)

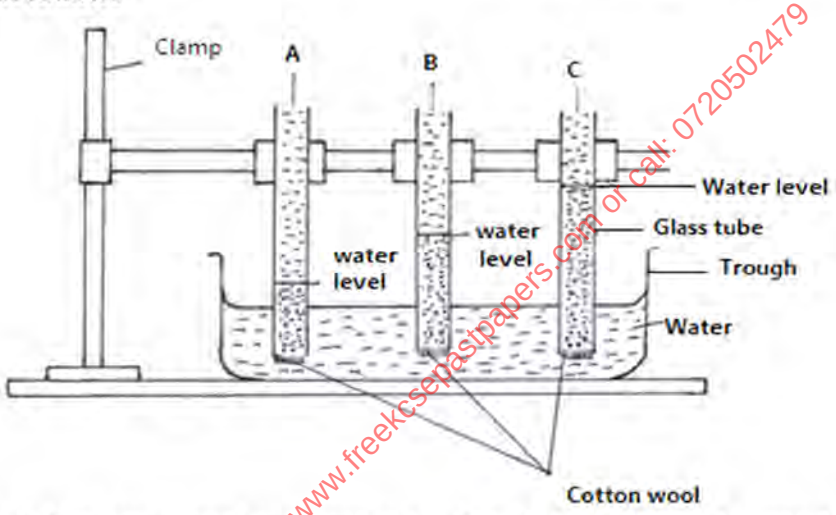
vi) On 10/1/2010 Lutonyi farm purchased on credit the following items from an Agro-vet shop

1) 20 bags of dairy meal, 70kg each @ kshs1, 100 per bag
2) 16 bags of bran, 70kg each@kshs700 per bag
3) 18 bags of D.S.P fertilizer,50kg@kshs1,500 per bag
4) 45 bags of seed maize, each2kg @kshs300 per bag
5) 8 Shearing knives (medium sized)@kshs300 per knife

i) Prepare the purchase order that Lutonyi farm made to the agro-vet shop (4mks)

ii) Calculate the value of each item purchased and the total value of the order. (2mks)

vii) The diagram below shows an experiment set up using soil types A,B and observations were made after 24hours.Study the diagram and answer the questions that follows



for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

i) what is the experiment represented in the diagram above designed to study? (½ mk)

ii) Name the three soil types labelled **A, B and C.** (1 ½ mks)

iii) What is characteristic texture of soil types **A** and **C**? (1 mk)

iv) State how a farmer would improve the structure of soil **type A.** (½ mk)

SECTION C 40 MARKS)

Answer any TWO questions from this section in the spaces provided after question 28

26. a) ***Mention*** and ***explain five*** sites for agro-forestry trees in the farm. (10mks)

b) ***Explain*** the factors to consider in choosing the type of irrigation in the farm. (10mks)

27. a) Describe the field production of Tea under frame formation by pegging method (10mks)

b) Describe the growing of Tomatoes under the following sub- headings

i) Transplanting (5mks)

ii) Diseases and their control (5mks)

28. a) ***State*** and ***explain*** the market functions (10mks)

b) ***State*** and ***explain*** the various Land Tenure systems practised in Kenya (10mks)

Set10
Paper 2

SECTION A (30MARKS)

Answer ALL questions in this section in the spaces provided

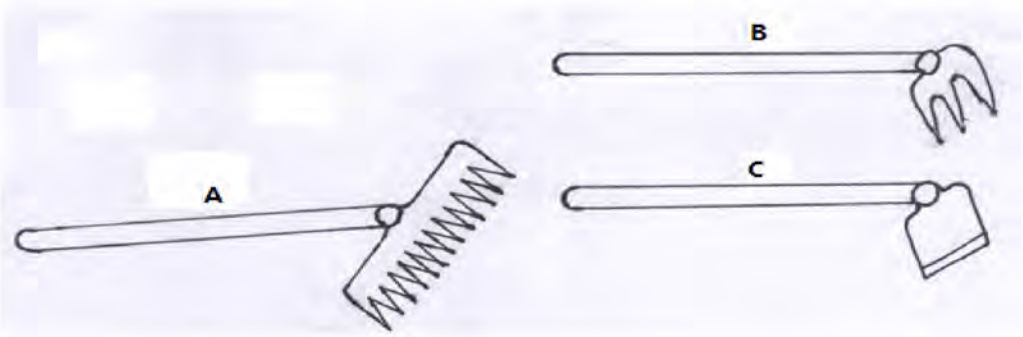
1. **State four** factors that affects the digestibility of animal feed. (2mks)
2. Distinguish between crutching and ringing in sheep production (2mks)
3. **Give four** factors considered when sitting an apiary. (2mks)
4. **State four** physical features of a good layer (2mks)
5. **Give four** uses of harrows (2mks)
6. **Explain** the term 'hybrid vigour' as used in livestock production. (1mk)
7. **State four** desirable features of a rabbit hutch. (2mks)
8. **Give four** disadvantages of an artificial incubation. (2mks)
9. **State four** signs of round worms attack in livestock production. (2mks)
10. **List six** predisposing factors to livestock diseases. (3mks)
11. **Give four** maintenance practices of a disc plough. (2mks)
12. Name the vector which transmits the following diseases. (1mk)
    i) East coast fever
    ii) Trypanosomiasis
13. List ***four*** farm structures which would assist to control livestock parasites. 2mks)
14. State ***four*** signs which indicate that the sow is about to furrow. (2mks)
15. Name the other tool used together with the following tools during their operations. (2mks)
    i) Cannular
    ii) Brace
    i) Elastrator
    ii) Wood chisel
16. Name the strokes in the ***TWO*** stroke cycle engines. (1mk)

SECTION B (20MARKS)

Answer ALL questions in the spaces provided

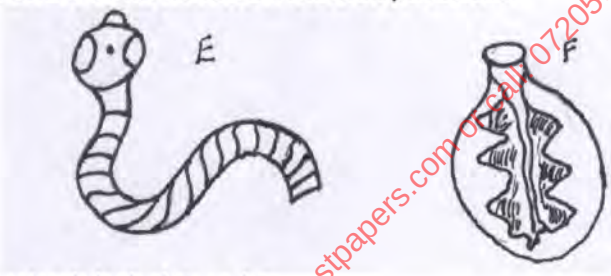
17. The diagram below illustrates the farm tools labeled A, B and C.Study them and answer the questions that follow

for free past papers visit: www.freekcsepastpapers.com or call 0720502479



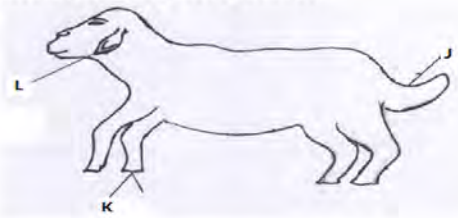
a) ***State THREE*** proper uses for the tool labeled **A.** (3mks)
b) **State THREE** field conditions under which the tool labeled **B** would be more suitable for use than tool **C.** (3mks)

18. The diagrams **E** and **F** below shows livestock parasites



a) **Identify** parasite labeled **E** and **F** (1mk
b) **Name** the organ in which each parasite is commonly found (1mk)
c) **Name** the intermediate host of the parasite labeled **E** (½mk)
d) **State four** control measures of the parasite labeled **F** in livestock production. (2mks)

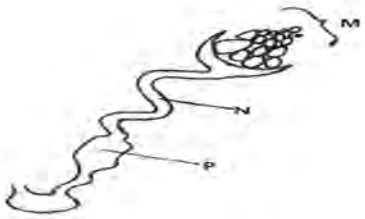
19. Below is a diagram of a sheep with some parts labelled J, K and L. Study the diagram and answer the question that follow



a) Name the operation usually carried out on the part labeled **J** during the early stages of sheep life (½ mk)
b) **Give TWO** reasons for carrying out the above operation ie in (a) above (2mks)
c) **Name TWO** methods of carrying out the above operation ie (in (a) above). (1mk)
d) Which routine operation is usually carried out on the part labelled K. (½mk)
e) **Give TWO** reasons for carrying out the above operation i.e (d above). (1mk)
f) **Name TWO** methods of identification carried out at the part labeled **L.** 1mk)

for free past papers visit: www.freekcsepastpapers.com or call 0720502479

20. Below is a diagram showing the reproductive system of a hens study the diagram and answer the questions that follow



a) **Identify** the parts labeled **M**, **N** and **P** (1½mks)
b) **State the function** of the parts labeled **N** and **P** (2mks)

for free pastpapers visit www.freekcsepastpapers.com or call: 0720502479

SECTION C (40 MARKS)

Answer any TWO questions from this section in the spaces provided after question 23

21. (a) **Describe** the management of piglets from farrowing up to weaning of piglets. (12mks)

(b) **Give FOUR** importance of feeding colostrum to calves. (4mks)

(c) **State FOUR** causes of cannibalism in poultry production. (4mks)

22. (a) **State FIVE** advantages of farm mechanization. (5mks)

(b) **Give FIVE** maintenance practices of a water cooling system of a tractor. (5mks)

c) **State the major** structural and functional differences of the diesel fuel system and petrol fuel system of tractor engines. (10mks)

23. (a) **State FIVE** importance of keeping livestock healthy. (5mks)

(b) Discus milk fever disease in cattle under the following sub-headings

(i) Cause (1mk)

(ii) Symptoms (8mks)

(iii) Control measures (3mks)

© State THREE qualities of clean and high quality milk (3mks)

Set11
443/1
AGRICULTURE
PAPER 1
Time: 2 Hours

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

INSTRUCTIONS TO CANDIDATES

-Write your name, School and index number in the spaces provided above.
-This paper consists of three sections A, B & C
-Answer ALL the questions in Section A and B and any Two questions from section C.
-Answers to ALL questions must be written in the spaces provided
-This paper consist of 26 questions

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM MARKS	CANDIDATES SCORE
A	1-20	30	

B	21-23	20	
C		20	
		20	
TOTAL SCORE		90	

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

1. Name four major branches of agriculture (2mks)
2. State two effects of low temperature on crop production (1mk)
3. Outline three factors that influence soil erosion (1½ mk)
4. State two methods of breaking seed dormancy (1mk)
5. (a) Name two types of capital (1mk)
   (b) Name three sources of capital (1 ½ mks)
6. State two importance of tissue culture in crop production (1mk)
7. Give three reasons for carrying out soil testing (1 ½ mks)
8. Give two ways through which land can be acquired (1mk)
9. Explain the term changing the cycle in coffee growing (1mk)
10. Outline four problems which farmers encounter in marketing vegetables (2mks)
11. Differentiate thinning from pricking out as used in crop production (2mks)
12. (a) State two factors which influence the efficiency of pesticides (1mk)
    (b) Why is finger millet rarely destroyed in the store (1mk)
13. List four books of accounts kept by a farmer (2mks)
14. For each of the following marketing functions state one importance (3 ½ mks)
    (i) Packing
    (ii) Processing
    (iii) Storage
15. State two factors that determine the number of times a farmer would harrow his land (1mk)
16. Under what two conditions would you recommend irrigation (1mk)
17. Why are leguminous plants prefered for green manure (1mk)
18. State four importance of farm accounts (2mks)
19. What is labour peak period (1mk)
20. (a) Give one function of each of the following in the preparation of compost manure (1 ½ mks)
    (i) Top soil
    (ii) Wood ash
    (iii) Manure

Website: www.freekcsepastpapers.com . Call: 0720502479 to get the marking scheme at a small fee

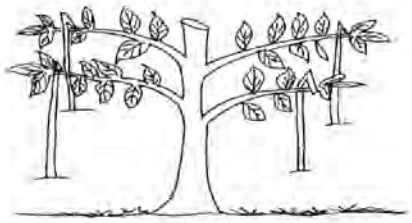
for free past papers visit www.freekcsepastpapers.com or call: 0720502479

(b) What is the importance of the stick that is driven into the compost manure heap (Pit) during the preparation of compost manure (1mk)

SECTION B (20MARKS)

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

21. Below is an illustration of a method of frame formation in tea. Answer the questions that follow.



(a) Identify the above method (1mk)
(b) Describe the procedure followed in (a) above (4mks)
(c) Apart from the above method name one other method of frame formation (1mk)

22. The diagram below illustrates a vegetable. Study it carefully and answer the questions that follow

(a) Identify the above crop labelled A. (1mk)
(b) Name two varieties of the above crop (2mks)
(c) Briefly explain why manure application is not recommended for the above crop (1mk)
(d) State two good qualities of crop A (2mks)

23. The following table shows an illustration of production of maize (intons) using variable levels of input

Units of variable input (Man days)	Total output	Marginal product	Average product
0	0	0	0
1	6	6	6
2	18	-	-
3	33	-	-
4	40	-	-

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

5	45	-	-
6	48	-	-
7	48	0	6.9
8	40	-	-

(a) Work out the marginal product and average product and fill in the table (6mks)

(b) (i) What is opportunity cost? (1mk)

(ii) A farmer has an option of growing either wheat or maize in his one hectare of land.Wheat gives a return of shs.20,000 while maize fetches Kshs.35,000 in the market.

If the farmer chooses to grow wheat what will be the opportunity cost? 1mk)

SECTION C (40 MARKS)

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

24. Describe the raising of maize crop for grains production under the following sub headings

(a) Ecological requirements (5mks)

(b) Seedbed preparation (3mks)

(c) Planting (5mks)

(d) Field management (5mks)

(e) Harvesting (2mks)

25. (a) Explain the various ways by which a farmer can adjust to risks and uncertainties (8mks)

(b) The inventory of Jashi Farm as at 31st march 2011 was as follows:

Cash in hand	sh.7,000
Layers	25,000
Dairy cattle	130,000
Cassava in store	5,000
Calves	19,000
Buildings	80,000
Land	180,000
Machinery	85,000

On the same day, the following information was obtained from the farmer's records

Bank loan	210,000
Egg sale on credit	10,000
Milk sales on credit	15,000
Vegetable sales on credit	5,000
Farm input purchased on credit	20,000
Wages payable	6,200
Taxes payable	800
Interest payable	2,500

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

Prepare a balance sheet (12mks)

26. (a) State the characteristics of a fertile soil (5mks)
(b) Explain eight physical or structural methods of soil erosion control (12mks)
(c) State the problems association with the use of herbicides (3mks)

Set11

Paper 2

SECTION A: (30 MARKS)

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

1. Give a reason why irish potatoes should not be fed to non-ruminants (½ mk).
2. List four advantages of natural mating (2mks)
3. Outline four factors that may influence the respiration rate of a boar (2mks)
4. State one method of increasing ploughing depth when using disc plough (1mk)
5. Give two reasons why Jersey breed is better suited for marginal areas than fresian breed (1mk)
6. List two factors associated to the animals that determine the amount of feed that an animal consumes. (1mk)
7. Name the type of breeding system represented below
   Arshire × Boran Dam ⟶ F1 heifer X Hereford sire (½ mk)
8. What safety measures should be observed when using a cross cut saw (1mk)
9. Give two reasons for treating timber for fencing (1mk)
10. State any three reasons for carrying out castration in cattle (1 ½ mks)
11. Differentiate between whole milk and skim milk (1mk)
12. State three factors considered in selection of a suitable site for a poultry house(1 ½ mks)
13. State three function of fats and oils in animals body (1 ½ mks)
14. Name three calf diseases brought about by wet condition within the calf pen (1 ½ mks)
15. State four advantages of farm mechanization (2mks)
16. Name four sources of power in the farm beside tractor (2mks)
17. What is the cause of soft shells in eggs? (1mk)
18. Why are additives necessary when making sillage (1 ½ mks)
19. What function is accomplished by droppers in a barbed wire fence (1mk)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

20. What is the role of an attendant during the time of furrowing in pigs (1 ½ mks)

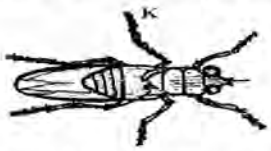
21. State two functions of queen in a bee hive (1mk)

22. State four signs that would show that a cow died of anthrax (2mks)

SECTION B (20 MARKS)

Answer all the questions in the spaces provided

23. The diagram below illustrates parasites which transmit diseases in livestock. Study them carefully and answer the questions below



(a) Identify the specimen K and L

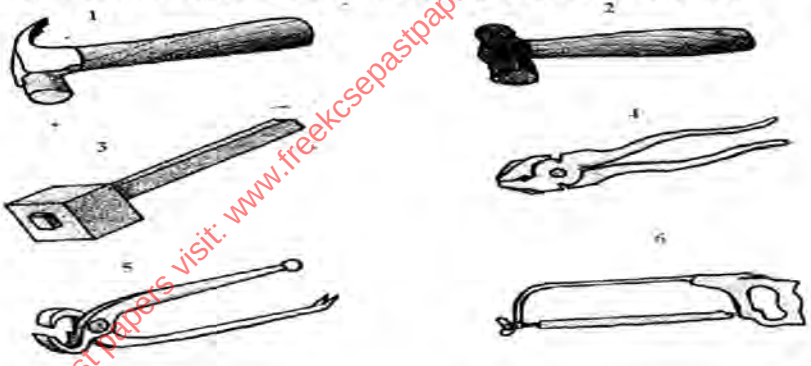
K

L

(b) In each case name one disease transmitted by the parasite K and L in cattle (½ mk)

(c) Name the causative organism of the disease transmitted by K (½ mk)

24. Study the farm tools labeled 1-6 and answer questions that follow

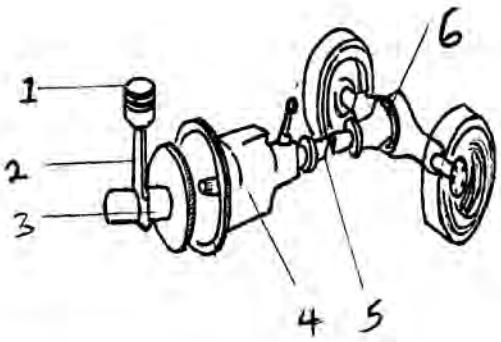


(i) Name the tools labelled 1-6 (3mks)

(ii) What is the function of the tool labelled 1 and 2 (½ mk)

25. Study the diagram below that shows the power transmission mechanism of a tractor engine

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

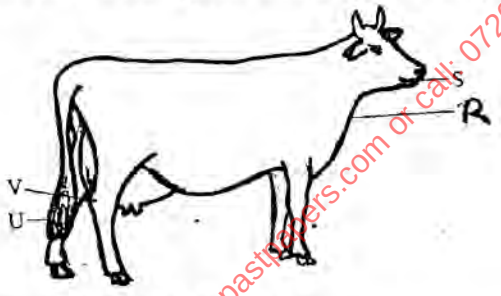


(i) Label parts numbered 1-6 (3mks)

(ii) What technical term is used to refer to attaching an implement to a tractor(½ mk)

(iii) Name two types of linkage on a tractor (1mk)

26. Study the diagram below of a dairy cow and answer the questions that follows

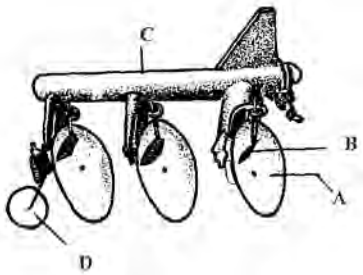


(i) Identify the parts labelled S, R, U, V (2mks)

(ii) Indicate on the diagram with letter T two areas commonly inhabited by ticks (1mk)

(iii) State two characteristics that qualify it as a good milk producer (2mks)

27. The diagram below shows a farm implement .Study it and answer the following questions



(i) Name the part labelled A,B, C, and D (2mks)

(ii) What is the function of the part labelled D? (1mk)

(iii) State two maintenances on the implement (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION C

Answer any TWO questions from this section in the spaces provided after questions

28. (a) (i) Describe the extraction of honey from the combs using heat method (7mks)

(ii) State three factors affecting the quality of honey (3mks)

(b) State the main components of a tractor fuel system and their functions (10mks)

29. (a) Explain five daily maintenance services on a tractor and state the part involved. (10mks)

(b) (i) Describe the characteristics of a poor layer, which should be considered during Culling (7mks)

(ii) Outline the control measures against roundworm (3mks)

30. (a) Explain the factors that a farmer should consider when constructing a farm structure (10mks)

(b) Explain the predisposing factors of mastitis disease in cattle (10mks)

for free past papers visit: www.freekcsepastpapers.com or call 0720502479

Set12
AGRICULTURE
443/1
PAPER I
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided above*
- *This paper consists of three sections A, B & C*
- *Answer all the questions in the spaces provided*

for more past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION A: (30MKS
Answer all the questions in this section in the spaces provided

1. Give **two** reasons why agriculture is looked at as an artistic practice (2mks)
2. Name **four** species of trees and shrubs commonly used in agro-forestry (2mks)
3. Outline **two** disadvantages of communal land tenure system (lmk)
4. Differentiate between pricking out and hardening off in crop production (lmk)
5. Give **three** different types of soil water (1 ½ mks)
6. Explain the following terms (2mks)
   (i) Elasticity of demand
   (ii) Elasticity of supply
7. Highlight **two** factors that influence the stage at which crops are harvested (lmk)
8. Give **two** ways of utilizing napier grass as a forage crop (lmk)

9. Mention **two** methods of improving labour productivity on a farm (lmk)

10. State **two** ways the level of education and technology affect agricultural production in Kenya (lmk)

11. Give **two** signs of crop infestation by root nodes namatodes (lmk)

12. State **one** reason why farm yard manure should not be applied in a field of carrots (½ rnk)

13. Name **two** chemicals used in water treatment (lmk)

14. A farmer was advised to apply 210 kg of calcium of ammonium nitrate (CAN 21-0-0) per hectare. Calculate the amount of nitrogen required (2mks)

15. Give **two** factors that discourage shifting cultivation (lmk)

16. State **four** reasons why tissues culture is encouraged in crop production (2mks)

17. State **four** precautions taken when harvesting tea (2mks)

18. (a) State **three** reasons why farm budgeting is carried out (1½ mks)

(b) Define the term opportunity cost (½ mks)

19. (a) Name **two** categories of crops on the basis of photosynthetic light requirement (1mk)

(b) Give **four** climatic factors that are influential during the soil formation process (2mks)

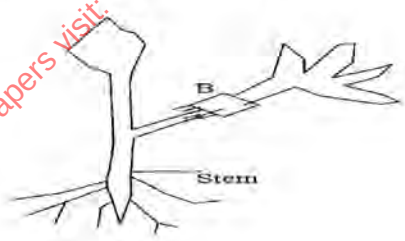
20. State **five** harmful effects of weeds (2 ½ mks)

21. Outline **three** advantages of using certified seeds in crop production (1½ mks

SECTION B(20 MARKS)

(Answer all the questions in this section in the spaces provided)

22. Study the diagram below and use it to answer the questions that follow



(i) State the method of vegetative propagation shown in B (½ mk)

(ii) State **two** factors that lead to the development of roots in plant B (2mks)

(iii) State **one** limitation of using the above method of propagation (1mk)

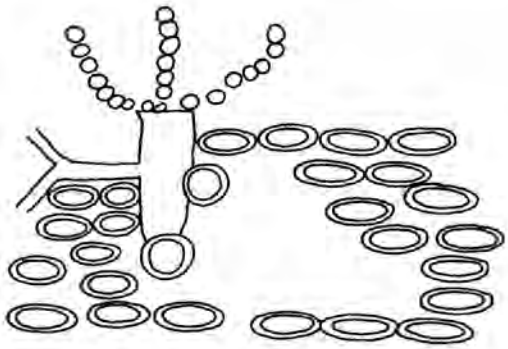
23. Identify the farm record below and answer the questions that follow.

DATE	Disease and symptoms	Animals affected	Drug used	Cost of treatment	remarks

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(a) Identify the farm record shown (1mk)

(b) State **three** different information that should be entered in the remarks column (3mks)



24. (a) Identify the fungal disease indicated above (½)

(b) State the causal organism of the disease identified above (1mk)

(c) State **two** symptoms of the disease above (lmk)

(d) State **one** control measure for the disease in the control field (lmk)

25. The illustration below shows a four —heap system of making a compost manure. Study it and answer the question that follow.

(i) By use an arrow show how the decomposing materials should be transferred from one heap to another till the manure is applied in the field (1mk)

(ii) How long does the material take to be ready for application in the field as manure

(½ mk)

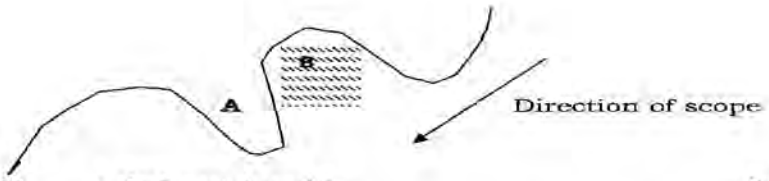
(iii) Give **one** reason for turning the material in the heap regularly (½ mk)

(iv) Give **one** reason why it is necessary to sprinkle water on the heap (½ mk)

(v) Outline **two** characteristics of plants used for green manuring (1mk)

26. Below is a diagram of a narrow based terrace .Study it carefully and answer the questions that follow.

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479



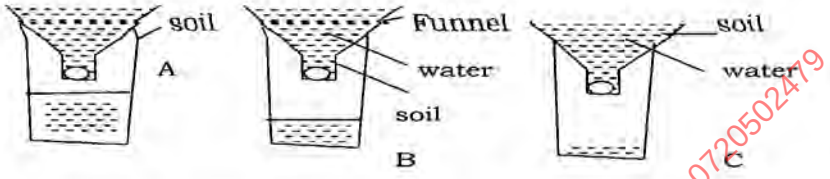
(i) Label part A and B (lmk)

(i) Name the practice carried to B immediately the terrace is constructed (½ mk)

(ii) State the maintenance practices carried to part A (1mk)

(iv) State **two** ways terraces conserve soil and water (1mk

27. The diagram below shows an experiment set up using different soils type A,B and C. The observation is made after 24 hours



(a) State what the experiment was designed to study (1mk)

(b) Name the soil type labeled A,B and C (1 ½ mks)

(c) State **three** ways in which soil structure influences crop production (1 ½ mks)

SECTION C(40 MARKS)

Answer any two questions in this section in the spaces provided after question 30

28. (a) Describe grass pasture establishment using seeds starting from land preparation to time ready for harvesting (10mks)

(b) Discuss five qualities of a good silage (5mks)

(c) Briefly describe problems facing farmers when marketing agricultural products (5mks)

29. (a) Outline the factors necessary for proper functioning of co-orperatives (4mks)

(b) Discuss the advantages and disadvantages of overhead irrigation (8mks)

(c) Outline the safety measures in the use of chemicals to minimize environmental Pollution (8mks)

30. (a) Describe the production of beans under the following sub-topics

(i) Planting (3mks)

(ii) Field management practices (5mks)

(iii) Post harvest practices (4mks)

(b) List various methods of harvesting water in the farm (5mks)

(c) Explain how farmers adjust to risks and uncertainties in the farm (3mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

Set2

Paper 2

SECTION B: (30marks)

Answer all questions in this section in the spaces provided.

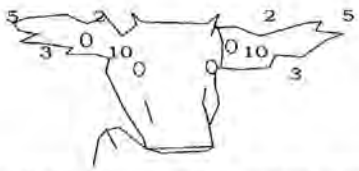
1. (a) What is a notifiable disease (1mk)
   (b) Name two notifiable diseases of cattle (1mk)
2. Give four faults in the eggs that are detected during egg candling (2mks)
3. Give two components of the water cooling systems (1mk)
4. (a) Give two roles of litter in a deep litter poultry house (1mk)
   (b) State one role of footbath in a poultry house (½ mk)
5. Mention four advantages of embryo transplant (2mks)
6. Give functional difference between the following tools (2mks)
   (a) Stock and die and pipe cutter
   (b) Ball pein hammer and claw hammer
7. State four features of an ideal calf pen (2mks)
8. Explain the meaning of the following terms (2mks)
   (a) Starch equivalent (S.E.)
   (b) Crude fibre (C.F)
9. State three methods of restraining cattle (1½ mk)
10. List four structural requirements of a grain store (2mks)
11. Name two types of mowers a farmer can use in the farm (lmk)
12. Name the dairy breed of cattle which (1mk)
    (a) Produces the highest yield of milk
    (b) Produces milk with the highest butterfat content
13. State four pre-disposing factors of mastitis (2mks)
14. Name any two hormones associated with milk let-down in cattle (1mk)
15. Write down four factors considered when computing a ration for livestock on the farm (2mks)
16. State two ways in which digestion of food in pigs differs from that in Ruminants (2mks)
17. State two conditions which would make it necessary to feed bees (lmk)
18. State four disadvantages of natural mating as a method of breeding in dairy cattle management (2mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B (2OMKS)

Answer all questions in this section in the spaces provided

19. The diagram below illustrates a method of identification in livestock production. Use it to answer the questions that follow



(i) Name the type of identification illustrated above (½ mk)

(ii) Give the identification number of the animal illustrated in the diagram above (lmk)

(iii) Using diagrams , illustrate how you can identify animal number 24 and 36 using the above (2mks)

20. The diagram below illustrates livestock deficiency diseases. Study the diagram and answer the questions that follow.

(a) Identify

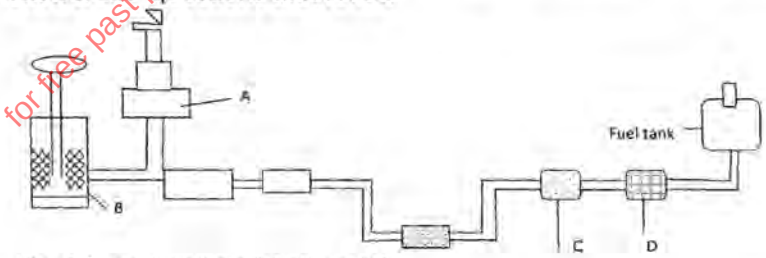
(i) The diseases (½ mk)

(ii) The deficient nutrient (½ mk)

(b) (i) Apart from head refraction, state two other symptoms of the deficiency Disease (2mks)

(c) State one role of the nutrient named in a (i) above (1mk)

21. (a) Below is a diagram showing a petrol engine fuel system. study it carefully and answer the questions that follow

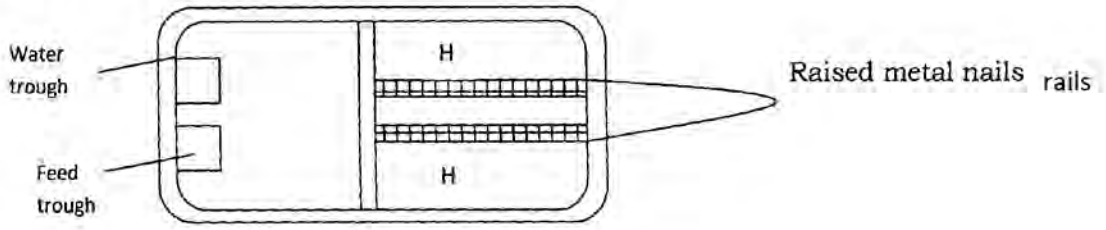


(a) Identify parts labeled A, B and D (1½ mk)

(b) State the functions of the parts labeled B, C and D (1½ mk)

22. Study the ground plan of a pig forrowing pen, then answer the questions that follow

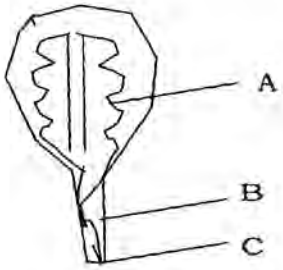
for free past papers visit: www.freekcsepastpapers.com or call: 0720502479



(a) What is the use of metal rails (1mk)

(b) Give one use of the area labeled H (1mk)

23. Study the livestock parasite below and answer the questions that follow

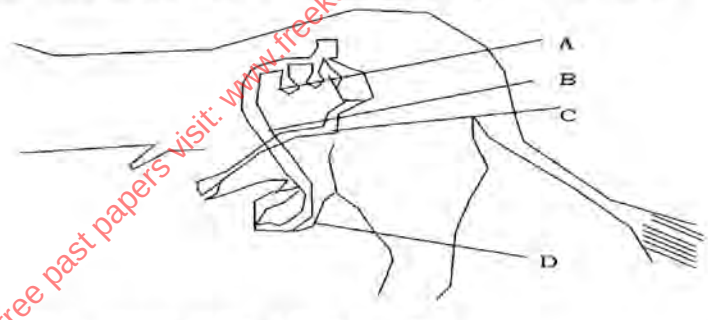


(a) (i) Identify the parasite

(ii) Name part of the parasite labeled A, B and C (1½ mks)

(b) State two control measures of the parasite (2mks)

24. The diagram below shows the reproductive system of a bull



(a) Name the parts labeled A, B and D (1½ mks)

(b) State the function of each of the parts labelled A and D (2mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION C (40 mks)

Answer any two questions from this section in the spaces provided after question 27

25. (a) Discuss Foot-rot under the following sub-headings

(i) Causal organism (lmk)

(ii) Predisposing factors (3mks)

(iii) Symptoms of ultacic (6mks)

(iv) Control measures (5mks)

(b) Give reasons why colostrum is fed to calf in the 1st- 6th day after parturition (5mks)

26. (a) Discuss the factors that influence output by a draught animal (5mks)
(b) Describe procedure of harvesting honey in a Kenya Top bar hive (10mks)
(c) Describe five method used in fish preservation (5mks)

27. (a) Describe components of a spring race (7mks)
(b) Describe the management of pigs immediately after furrowing upto weaning of Piglets (10mks)
(c) State three advantages of rearing birds through a battery cage system 3mks)

Set13
443/1
AGRICULTURE
PAPER 1
TIME: 2 HOURS

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided above*
- *This paper consists of three sections A, B and C.*
- *Answers should be written in the spaces provided.*

FOR EXAMINER'S USE

SECTION	QUESTION	MAXIMUM MARKS	CANDIDATE'S SCORE
A	1 – 20	30	
B	21 – 25	20	
C	26 – 28	20	
		20	
TOTAL SCORE		**90**	

Answer ALL questions in this section.

1. List **two** aspects of light that influence agriculture. (1mk)
2. State **two** reasons why land settlement scheme were established in Kenya. (1mk)
3. Define the following terms as used in crop production. (2mks)
   (a) Pomoculture
   (b) Oreliculture
4. Outline **two** methods used by farmers to harden-off seedlings in the nursery. (1mk)
5. State **two** circumstances that could make shifting cultivation practicable in an area. (2mks)
6. State **two** biotic factors that are useful in agricultural production. (1mk)
7. State **four** advantages of overhead irrigation. (2mks)
8. Give **two** signs that could enable you to identify a composite manure that is ready for use (2mks)
9. State **four** agricultural services available to a crop farmer. (2mks)
10. State **two** factors that must be considered when constructing cut-off drains. (1mk)
11. Give **four** methods of harvesting water in the farm. (2mks)
12. Give any **two** factors that should be considered before deciding to use chemical method of pest control. (1mk)
13. (a) What is biological weed control. (1mk)
    (b) State **two** advantages of biological weed control. (1mk)
14. State **two** farming practices that can be carried out to increase the amount of moistured harnessed by crops. (1mk)
15. Give **two** ways in which agriculture contributes to industrial development in Kenya. (1mk)
16. State any **three** characteristics of trees used in agroforestry. (1 ½ mks
17. State what is meant by the term "trap crop" as used in crop pest control. (1
18. Outline **two** factors that could determine the amount of fertilizer to be top dressed to a crop in the field. (1mk)
19. State **two** factors that determine the scale of agricultural production. (1mk)
20. State **four** benefits of budgeting to a farm manager. (2mks)
21. Give **three** reasons for practicing minimum tillage. (1 ½ mks)

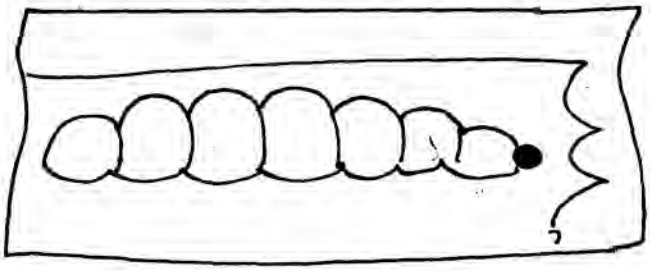
SECTION B (20 MARKS)

Answer all this questions.

22. The diagram below shows a maize stalk infested by a certain pest. Observe it and

for free past papers visit www.freekcsepastpapers.com or call 0720502479

Answer the questions that follow.



(a) Identify the pest in the diagram above. (1mk)
(b) Give **two** damages caused by the pest identified in (a) above. (2mks)
(c) Other than maize name two other crops attacked by the pest (a) above. (1mk)
(d) Give **two** cultural control measures for the pest (a) above. (1mk)

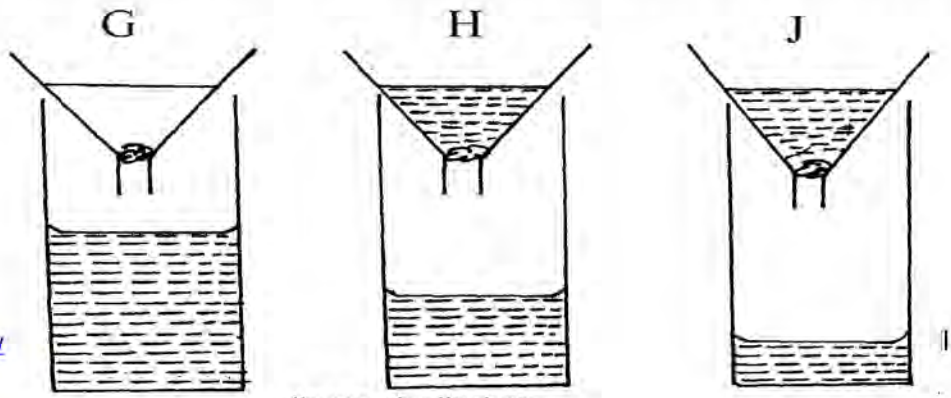
23. The table below show the weekly demand for wheat.

Price (Ksh.)	Quantity demand (kg)
20	250
18	350
16	550
14	600
12	700
10	1000
8	1500

(a) Calculate the elasticity of demand for a price fall from ksh.20 to ksh.18 per kg. (2mks)
(b) If the price increased from kshs.20 to kshs.22 and elasticity of demand is 6. Find the quantity demanded at higher price. (2mks)
(c) State **two** factors that affect the demand of tomatoes other than price. (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

24. The diagram below shows an experiment set up using soil types G, H & J. Observations were made after 24 hours. Study the diagram and answer the questions that follow.

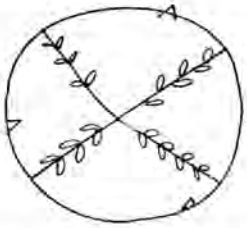


(a) What is the experiment above designed to study. (1mk)

(b) Name the three soil types (1 ½ mks)

(c) Explain how the farmer can improve the soil type G. (1marks)

25. The diagram below shows a method of bringing tea into bearing. Study it carefully and Use it to answer the question that follow.



(a) Identify the method in the diagram above. (1mk)

(b) Why is it necessary to prune a young tea plant as illustrated in the diagram above. (1mk)

(c) Outline the procedure followed when using the pruning method shown above.

SECTION C (40 MARKS)

Answer any two questions from this section.

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

Unit of variable input (Mondays)	Total output	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)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(b) On the same graph paper, plot the graph showing total output, marginal product and average product against the variable input. (8mks)

(c) Outline **three** reasons why a maize farmer should keep farm records. (3mks)

27. (a) 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 program. (6mks)

(c) Give **four** reasons why timely ploughing of the seedbed is important in crop production. (4mks)

28. Describe the production of nappier grass under the following subheadings.

(a) (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 contained in a land title deed. (5mks)

Set13

Paper 2

Answer all questions in this section

1. (a) Give **one** reason why each of the following is important in livestock nutrition.

(i) Grit (½ mk)

(ii) Green vegetables (½ mk)

(b) Identify **two** causes of soft shells in eggs? (1 mk)

2. State **four** digestive activities that take place in the pigs small intestines

3. Write down **one** distinguishing characteristic of the following livestock breeds; (2 mks)

(a) Jersey

(b) Ear lops

(c) Barkshire (Wessex)

(d) Toggenburg

4. Define the following terms as used in livestock health;

(a) Casual organism (1mk)

(b) Disease predisposing factor (1 mk)

5. Give **one** reason for carrying out the following practices in sheep

(a) Docking (1 mk)

(b) Ringing (1 mk)

6. Name **four** post harvesting practices in fish. (2 mks)

7. (a) Name the part of an egg which is fertilized (½ mk)

(b) What is a wheel? (½ mk)

8. (a) State **three** advantages of concrete walls over wooden walls in a farm building. (1 ½ mk)

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

(b) State **two** reasons for spreading damp proof course of PV C on a farm building (1 mk)

9. State **six** symptoms of milk fever (3 mks)

10. What is the **gestation period** of the following farm animals? (1 mk)
    (a) Goat
    (b) Pig

11. Differentiate between
    (a) Ranching and Pastoralism. (1 mk)
    (b) Pork – type pigs and Bacon type pigs (1 mk)

12. (a) What is **outbreeding**? (1 mk)
    (b) List **two** advantages of outbreeding (2 mks

13. Give **two** maintenance practices of mowers. (1 mk)

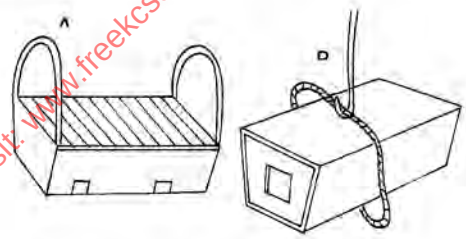
14. State **four** non – chemical methods of controlling ticks in cattle. (2 mks)

15. (a) Name **two** livestock production tools that must be used together (Complementary livestock tools) (1 mk)
    (b) What is the function of Tinman's snips (½ mk)

SECTION B : (20 Marks)

Answer all questions in this section in the spaces provided.

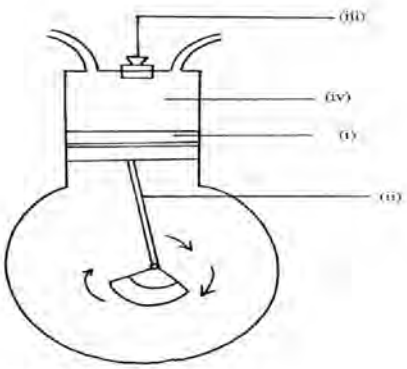
16. The diagram labeled A and B below shows two types of bee hives. Study them carefully and answer the questions that follow:



for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

(a) Identify the types of beehives A and B (1 mk)
(b) State **two** advantages of A over B.
(c) Give two maintenance practices for the named bee hives. (1 mk)

17. The diagram below is a part of a tractor engine. Study it and answer the questions that follow.



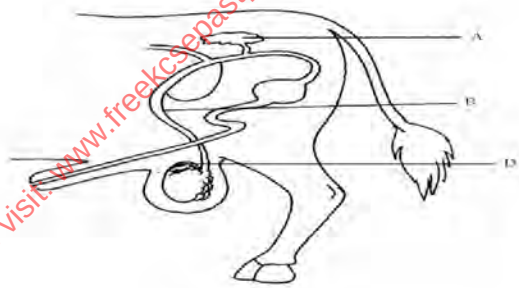
(a) Identify parts (i), (ii), (iii) and (iv) (4mks)

(b) What is the function of part labeled (i). (1mk)

18. 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 workings. (4 mks)

19. The diagram below represents the reproductive system of a ball. Study it and answer the questions that follow.



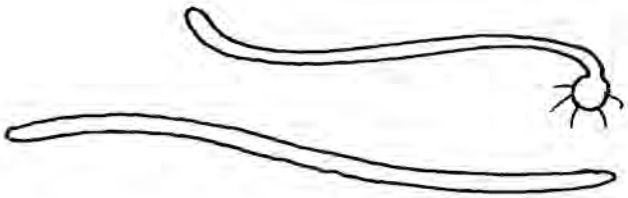
(a) Identify the parts A, B and D. (3 mks)

(b) What is the function of part B (1 mk)

(c) How does sperm stay in the part D? (½ mk)

20. The diagram shows a livestock parasite.

for free past papers visit www.freekcsepastpapers.com or call: 0720502479



(a) Identify the parasite above. (½ mk)

(b) Which is the infective stage of the parasite? (1 mk)

(c) State **two** control measures of the parasite. (2 mks)

SECTION C (40 Marks)

Answer any TWO questions in this section.

21. (a) **Describe** the procedure followed during honey processing using heat method. (7 mks)

(b) Explain **four** qualities of good silage. (3 mks)

(c) Explain **five** factors that influence power output of an animal. (10 mks)

22. (a) Explain **four** qualities of good beef. (8 mks)

(b) **Describe** parturition in cattle. (12 mks)

23. (a) Explain the **advantages** of live fences. (10 mks)

(b) **Describe** the components of cooling system of a tractor. (10 mks)

for free past papers visit: www.freekcsepastpapers.com or call 0720502479

Set14
443/1
AGRICULTURE
PAPER 1
TIME: 2 Hours

INSTRUCTIONS TO CANDIDATES

a) *Write your **Name** and **Index** number in the spaces provided.*
b) *Sign and write the date of examination in the spaces provided.*
c) *This paper consists of three sections **A,B** and **C.***
d) *Answer all the questions in sections **A** and **B.***
e) *Answer any two questions in section **C** in the spaces provided.*

for free past papers visit: www.freekcsepastpapers.com or call 0720502479

For Examiner's Use Only

Section	Question	Maximum	Candidate's score
A	1- 19	30	
B	20- 24	20	
C	25 -26	20	
	27	20	
TOTAL		90	

SECTION A: (30 MARKS)

Answer all the questions in this section in the spaces provided

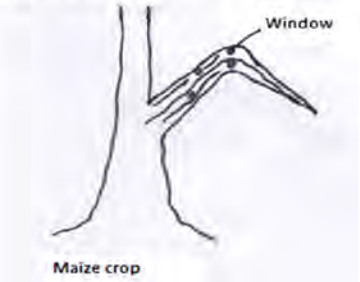
1. Give ***two*** aspects of light that influence crop growth (1mk)
2. List ***four*** sources of organic matter in soil. (2mks)
3. State ***three*** objectives of land settlement which have been under taken in Kenya (1½ mks)
4. ***State three*** effects of excessive application of nitrogenous fertilizer on crop growth. (1½ mks)
5. ***Give four*** examples of variable inputs in vegetable production. (2mks)
6. Outline ***two*** routine maintenance practices carried out on water storage tanks. (1mk)
7. State ***four*** characteristics of a fertile soil. (2mks)
8. ***Give two*** ways by which losses are incurred in silage. (1mk)
9. Define the following terms
   a) "Economic injury Level" of a crop pest. (1mk)
   b) Opportunity cost. (1mk)
   c) Marginal product. (1mk)
10. Give a reason for each of the following practices
    a) Top dressing established crops. (1mk)
    b) Topping in pasture management. (1mk)
    c) Stooking in maize production. (1mk)
11. Give ***three*** reasons why seedlings may fail to establish in the field. (1½ mks)
12. ***List three*** types of surface irrigation in crop production. (1½ mks)
13. ***State two*** roles of house hold – firm relationship. (1mk)
14. Define the following terms
    a) Per capital income. (1mk)
    b) Land reform. (1mk)
15. ***List two*** types of terraces. (1mk)
16. ***List two*** methods used to drain farm land. (1mk)
17. ***Give two*** varieties of carrots. 1mk)
18. Differentiate the following terms
    a) Hybrid and composite in maize. (1mk)
    b) Undersowing and oversowing. (1mk)
19. What is a farm budget? (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION B : (20 MARKS)

Answer ALL the questions in this section in the spaces provided

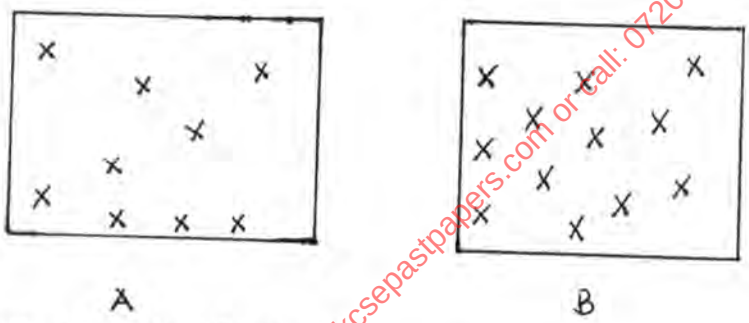
20. Study the diagram below and answer the question that follows



i) Identify the pest that has attacked the crop as illustrated above. (1mk)

ii) Give ***two*** control measures against the pest. (2mks)

21. Study the diagrams below showing soil sampling methods

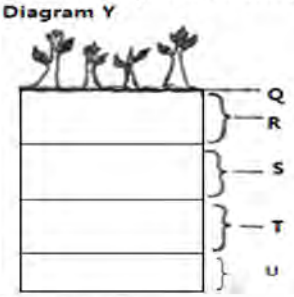


a) Identify the method illustrated (1mk)

b) Describe in brief the procedure of sampling. (3mks)

c) Give ***three*** information that should be indicated on the sample bag (1 ½ mks)

22. Observe the diagram below carefully and answer question below



a) What does diagram Y illustrate? (1 ½ mk)

b) Name the part labeled. (2mks).

c) Give ***three*** importances of illustration Y to a farmer. (1½ mks)

23. a) What is seed dormancy? (1mk)

b) State ***two*** ways of breaking seed dormancy. (2mks)

24 . a) What is production function? (1mk)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

b) Name and describe ***three*** production zones in agriculture (3mks

SECTION C (40 MARKS)

Answer any TWO questions in this section

25. Describe field production of napier grass under the following sub headings
    a) Seedbed preparation (5mks)
    b) Planting (5mks)
    c) Fertilizer application (2mks)
    d) Weed control (5mks)
    e) Utilization (3mks)

26. a) Describe the functions of agricultural marketing boards (10mks)
    b) Describe the role of agricultural co- operatives (10mks)

27. The following is a supply and demand schedule of eggs by teachers in chuth ber High school

Cost per 30 egg Tray (kshs)	Demand per day (No of trays)	Supply per day (No of trays)
33	0.5	4.7
31	1.1	4.6
30	1.6	4.4
28.50	2.0	4.2
25.50	2.4	3.9
24.00	2.9	3.6
22.50	3.3	3.3
21.00	3.7	2.9
19.50	4.2	2.5
18.00	4.8	2.0

a) i) Using the same axis with price on the vertical axis, draw the two graphs to indicate the relationship between price demand and supply. (6mks)
   ii) Name the point of intersection of the two graphs. (1mk)
   iii) What is the price of eggs per tray at the point of intersection? (1mk)
   iv) What is the supply and demand of eggs at the point of intersection. (1mk)
   v) What is the price at supply of three trays. (1mk)

b) Describe factors which determine demand of a commodity. (5mks)

c) Outline the agricultural services available to farmers. (5mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

Set14

Paper 2

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

1. Name the hormone that is concerned with milk synthesis. (1mk)

2. State **three** factors that make a lactating cow to withhold milk during milking. (1 ½mk)
3. Distinguish between crutching and ringing on sheep production. (1mk)
4. State **four** reasons why goats are suitably adapted to marginal areas. (2mks)
5. Name **two** methods used in identifying goats. (2mks)

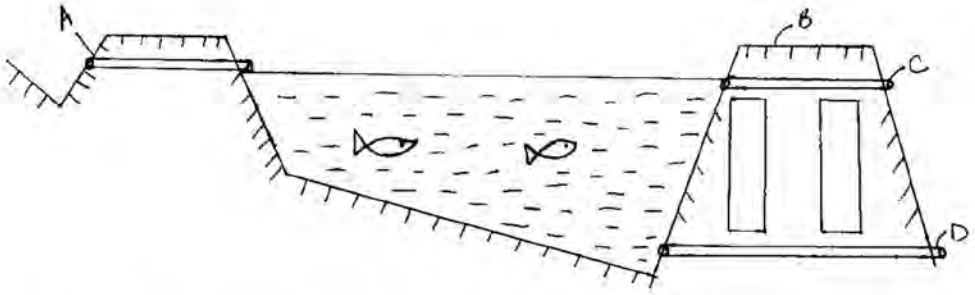
6. State **four** factors that determine the daily feed requirements of an animal. (2mk)
7. (a) Name a tool used for removal of gases which cause bloat in ruminant animals. (1mk)
   (b) State the use of a ring spanner. (1mk)
8. Outline ***four*** reasons for steaming up a gestating cow. (2mks)
9. Give ***two*** distinctive features between large white pig and land race. (2mks)
10. What are the secondary hosts of the following livestock parasite?
    (i) Taenia solium (½mk)
    (ii) Liver fluke (½ mk)
11. State **two** guns used in agriculture. (1mk)
12. Give **three** factors a farmer should consider when selecting garden tools for cultivation (1½ mk)
13. State any **four** causes of stress in a flock of lay. (2mks)
14. Give **four** conditions under which a farmer would use an ox-plough instead of a tractor power for seed bed preparation. (2mks)
15. Give **three** functions of worker bees in the hive. (1½mk)
16. Name **two** species of trees used in agro-forestry that can be utilized as livestock feed (2mk)
17. A part from bush clearing and spraying list other ***two*** methods used in controlling tsetse flies. (1mk)
18. Give **four** advantages of creep feeding of beef calves. (2mks)
19. State **one** function of each of the following parts in chickens' digestive system. (1 ½mks)
    (i) Crop
    (ii) Proventriculus
    (iii) Gizzard

SECTION B 20 MARKS

Answer ALL questions

20. Below is a diagram of a cross section of a fish pond

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479



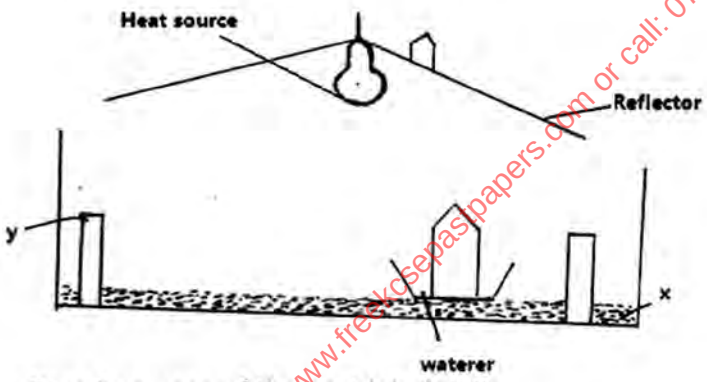
(a) Identify the parts labeled A, B, C, and D.

(2mks)

b) State **three** maintenance practices carried out on the structure after draining.

(3mks)

21. The diagram below represents a section through which an artificial brooder.



a) Give **two** uses of the part labeled X. (1mk)

b) Name **two** suitable materials to use for part labeled X. (1mk)

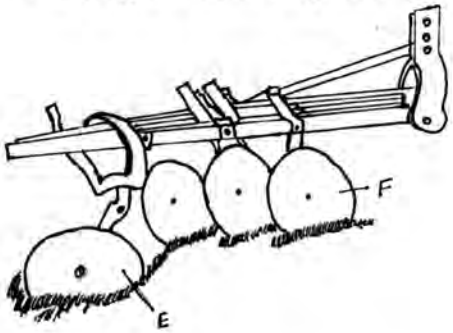
c) Give the use of the part labeled Y. (1mk)

d) List **two** advantages of natural brooding of chicks. (2mks)

20. Outline the procedure that should be followed in spraying animals to ensure effective coverage of the chemical.

(5mks)

21. The diagram below represents an implement



for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

i) Identify the implement. (1mk)

ii) Name the parts labeled E and F and give one function of each. (2mks)

(iii) State **four** maintenance practices carried out on the implement shown in the diagram. (2mks)

SECTION C (40 marks)

Answer any TWO questions from this section on the spaces provided after the questions

20. a) Differentiate between four stroke and two stroke cycle engine. (14mks)

b) State the advantages and disadvantages of animal power. (6mks)

21. a) Discuss the management of pigs from preparation to farrowing upto furrowing

22. b) Outline **eight** management practices a farmer should carry out to maintain good healthy in a herd of cattle. (8mks)

23. a) Mention **five** precautions taken when using work shop tools. (5mks)

b) Give **five** general characteristics of dairy cattle breeds. (5mks)

c) State and explain the predisposing factors of livestock diseases. (10mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

Set15
443/1
AGRICULTURE
Paper1
Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

- *Write your name and Index Number in the spaces provided above.*
- *Sign and write the date of examination in the space provided above*
- *This paper consists of THREE section A,B and C.*
- *Answer ALL the questions in section in sections A and B.*
- *Answer any two questions from section C.*
- *All answers should be written in the spaces provided.*
- *Candidates should check the question paper to ascertain that all the pages are printed as indicatd and that no question are missing*

SECTION	QUESTION	MAXIMUM	CANDIDATES SCORE
A	1-19	30	

B	20-26	20	
C	27-29	20	
		20	

SECTION A: (30 MARKS)

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

1. a) State three ways by which agriculture contributes to national development. (1 ½ mk)

   b) State two effects of high level of Education and technology on agricultural production. (1mk)

2. Name two insect pests that attack sorghum in the field. (1mk)
3. State two conditions when opportunity costs are zero. (1mk)
4. State four conditions limiting shifting cultivation. (2mks)
5. a) State three reasons for practicing grafting in citrus production (1/ ½ mk)

   b) Give the method used in breaking seed dormancy in the following crop;

   i) Calliandra (½ mk)

   ii) Rice

6. Name two ways by which the PH of a soil is raised. (1mk)
7. State four reasons why organic matter is necessary in the soil (2mks)
8. State two disadvantages of surface irrigation. (1mk)
9. State two advantages of mixed pasture. (1mk)
10. Mention four types of soil erosion water. (1mk)
11. State two conditions for maximum efficiently of herbicides. (1mk)
12. State two functions of polythene sheet when used as mulch material. (1mk)
13. State four principals of cooperative societies. In Kenya (2mk)
14. Differentiate between coppicing and pinching out. (2mks)
15. State two sources of nitrogen in the soil for plants. (1mk)
16. Give two benefits of possessing certificate of land ownership. (1mk)
17. State four ways of improving labour efficiency in the farm. (2mks)
18. State any two benefits of minimum tillage. (2mks)
20. Give one reason why each of the following nursery management practices are carried out .

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

i) Hardening off (1mk

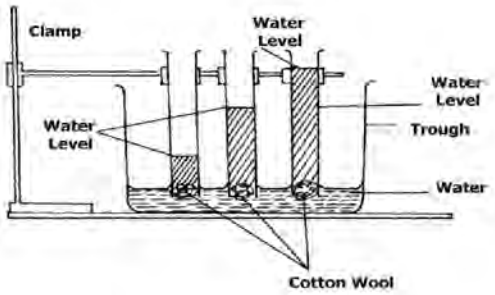
ii) Watering before transporting seedlings from the nursery bed. (1mk)

iii) Hardening in onions (1mk)

SECTION B (20MARKS)

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

20. The diagram below shows an experiment set up using soil types A, B and C and observations made after 24 hours.



i) What is the experiment above designed to study? (½ mk)

ii) Name the three soil types A, B, and C (1 ½ mk)

iii) What is the characterizes textures of soil types A and C? (1mk)

iv) State how a farmer would improve the structure of soil type A (½ mk)

20. Below is a diagram of a bird which is a crop pest.

i) Identify the pest. (½ mk)

ii) State three ways by which the bird causes loss in crops (1 ½ mks)

iii) State TWO methods that can be used in the control of the pest. (1mk)

22. Below is a diagram of a tomato plant.

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

i) Identify the practice illustrated (½ mk)

ii) Describe the procedure followed in spraying the crops with a fungicide in power form, water and a knapsack sprayer. (1 ½ mks)

iii) Name one fungal diseases that can be controlled in the crop using the procedure above. (½ mk)

iv) State two safety measures that shoulder be taken while spraying the crops with a fungicides. (1mk)

23. A farmer can combine dairy meal and home made fees in feeding dairy cattle. Study the table below answer Questions that following.

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

Dairy meal (kg)	Home made feed (Kg)	Marginal Rate of Substitution
1	48	O
2	39	V
3	32	7
4	27	W
5	23	4
6	21	X
7	20	1
8	19	Y

i) Given the information above, Calculate the marginal rate of substitution and give values of V, W, X, and Y. (2mks)

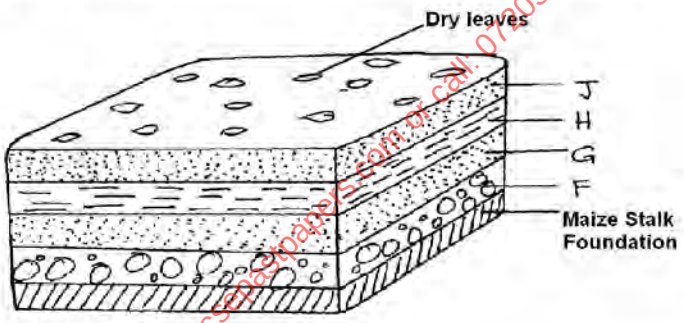
ii) Given that the price of dairy meal is Ksh 8.00 per kg. and that of home made feeds is Kshs 2/kg, calculate the least cost contribution. (1 ½ mks)

24. Given that at a price of Ksh 2000 per bag 20 bags of maize are demanded but when the price changes to Kshs 1800 /bag, 22 bags are demanded.

Calculated the Elasticity of demand. (Show your working) (1 ½ mks)

ii) What type of elasticity of demand is this in 24 (i) above? (½ mk)

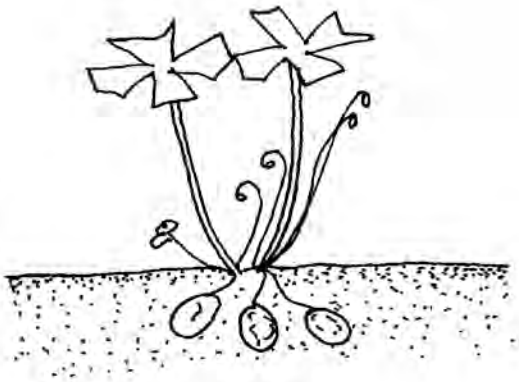
25. The diagram below is a presentation of a cross section through a compost heap.



i) Name the parts labeled O,F,G,H and J (2 ½ mks)

ii) Give importance of the parts labeled J, H and G. (1 ½ mk

26. The diagram below illustrates a weed.



for free past papers visit: www.freekcsepastpapers.com or call 0720502479

i) Identify the weed (½ mk)
ii) State one competitive ability of the weed illustrate above. (½ mk)

SECTION C

Answer any two questions from this section in the spaces provided after question 29.

27. a) Explain five factors that influence soil productivity. (10mks)
b) Outline five factors that a farmer would consider before deciding on the type of irrigation in crop production.

c) Describe five qualities of the mother plant should be considered when selecting vegetative materials for planting. (5mks)

28. a) List seven benefits of using organic mater for mulching. (7mks)

b) Describe the field production of Napier grass under the following sub- headings
(i) Planting (3mks)
ii) Fertilizer and manure (3mks)
iii) Utilization (3mks)

c) Describe the procedure followed when transplanting tree seedlings from a bare root nursery bed. (4mks)

29. a) Explain four agriculture practices which pollute water. (8mk)
b) Explain eight factors that determine the spacing of a crop (8mks)
c) State four precautions one should take when harvesting coffee.

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479

Set15
Paper 2

1. Name four causes of stress in a flock of layers (2mks)
2. State two maintenance practices of a cold chisel (1mk)
3. Suggest two factors that can lead to conception failure after a female cow has been served. (1mk)
4. Give two hormones that influence milk let down (1mk)
5. Suggest three factors that make embryo transplant unpopular with many livestock

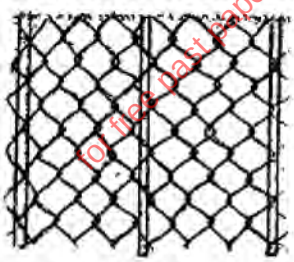
Farmers (1 ½ mks)

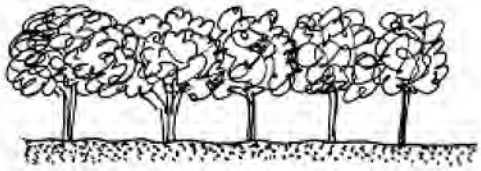
6. Give four reasons why boran cattle are more suitable for beef production under Kenya's ranch conditions than exotic beef cattle (2mks)
7. State four factors that may lead to culling in dairy cattle (2mks)
8. Give functional difference between the following tools
   a) Cross-cut saw and a rip saw (2mks)
   b) Spirit level and a plumb bob (2mks)
   c) Give four importance of breeding records (2mks)
9. Give four control measures of a liver flukes in livestock (2mks)
10. State three factors which influence the variation of the rate of respiration in various farm animals (1 ½ mk)
11. List four non-chemical methods of controlling ticks in cattle (2mks)
12. a) Give two roles of a queen bee in a colony (1mk)
    b) Give two signs of parturition in a doe (1mk)
13. Differentiate between a roughage and a concentrate feed in livestock production (2mks)
14. Give four reasons why dehorning is done in livestock (2mks)
15. State any four characteristics of the laudrace breed of pigs (2mks)

SECTION B (20 MARKS)

Answer all questions in the space provided.

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





a) Name the type of fences illustrated above (2mks)

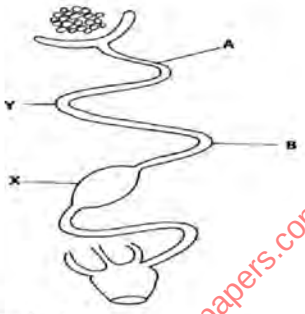
b) Name the correct tool used in maintenance of fence Y (1mk)
c) State three advantages that fence Y may have over fence X (3mks)

18. Study the chicken condition illustrated below and answers the questions that follow

for free past papers visit www.freekcsepastpapers.com or call: 0720502479

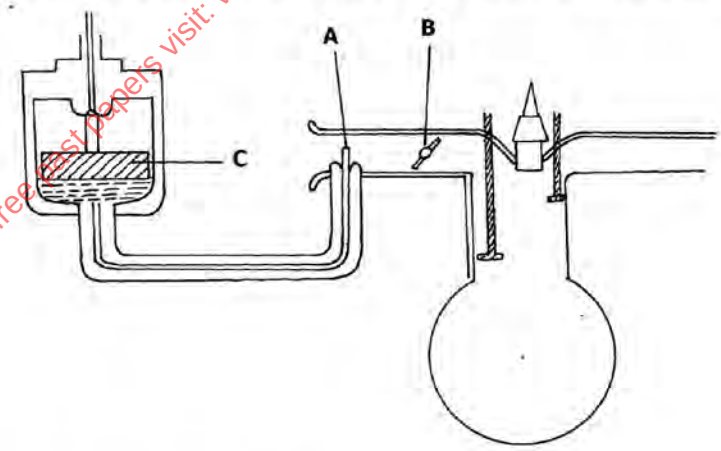
a) Identify the deficiency nutrient responsible for the condition above (1mk)
b) Give four functions of vitamins in livestock production (2mks)

19. Below is a diagram representing the reproductive system in poultry. Study it and answer the questions.



a) Name the parts labeled (3mks)
b) Name two substances added to the egg at section labeled Y (1mk)
c) How long does it take the egg to stay at section labeled X? (1mk

20. Study the illustration of a carburetor below and answer the questions



a) Identify the parts labeled (3mks)
b) State two functions of the carburetor above (2mks)
c) Identify the type of fuel system above (1mk)

for free cbse past papers visit: www.freekcsepastpapers.com or call: 0720502479

SECTION C

Answer Any two questions in this section

21 a) Discuss East coast Fever disease under the following sub-headings

i) casual organism (1mk)

ii) Symptoms of attack (5mks)

iii) Control measures (3mks)

b) Apart from the disease in (20a) above name other two diseases transmitted by ticks (2mks)

c) Describe the life cycle of a three host tick (8mks)

22. a) Outline the factors to consider when planning for the construction of a poultry house. (8mks)

b) State desirable physical characteristics which should be considered when selecting a gilt for breeding (8mks)

c) State the factors influencing the choice of building materials (4mks)

23. a) State any four causes of overheating in a water cooled engine (4mks)

b) Describe the maintenance practices to be carried out in a cooling system of a tractor (8mks)

c) Explain the limitations of a tractor power in farm mechanization (8mks)

for free past papers visit: www.freekcsepastpapers.com or call: 0720502479