

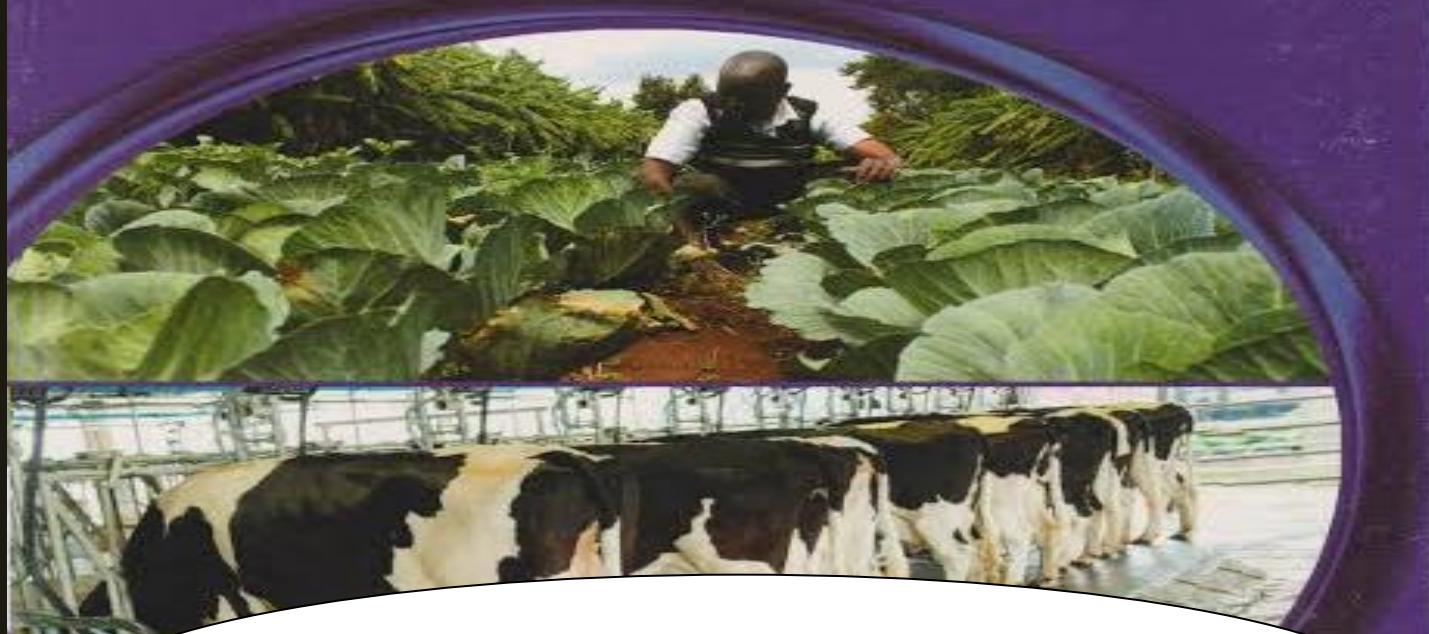


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Kenya Certificate of Secondary Education



SMARTFOCUS QUICK REVISION SERIES 2025

Agriculture



20 SERIES EXAMS

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SERIES 1
SECTION A (30 MARKS)

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

1. Give **two** roles of agriculture in industrial development. (1mk)

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2. Differentiate between **mixed cropping** and **intercropping**. (1mk)

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3. List **four** physical weathering agents in soil formation process. (2mks)

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4. List **four** farming practices that destroy soil structure. (2mks)

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5. Outline **four** effects of siltation in dams. (2mks)

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6. (a) Give **two** main methods of classifying weeds (1mk)

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- (b) State **two** disadvantages of controlling weeds by tillage method. (1mk)

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- (c) State **four** factors that affect selectivity and effectiveness of herbicides. (2mks)

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7. Outline **two** methods used by farmers to harden-off seedlings in a nursery bed. (1mk)

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8. Give **four** disadvantages of minimum tillage. (2mks)

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9. State **four** characteristics of tree recommended for agro-forestry. (2mks)

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10. State **three** reasons for staking tomatoes in the field. (1½mk)

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11. Give the use of each of the following financial document.

(i) **An invoice** (1mk)

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(ii) **A local purchase order** (1mk)

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12. Give **four** disadvantages of using farm yard manure. (2mks)

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13. Give **four** reasons why seed selection is important in crop production. (2mks)

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14. Outline **four** advantages of mixed stand pasture. (2mks)

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15. (a) Give a reason why manure application is not recommended in **carrot production**. (1/2mk)

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(b) Name **two** pests that affect cabbages. (1mk)

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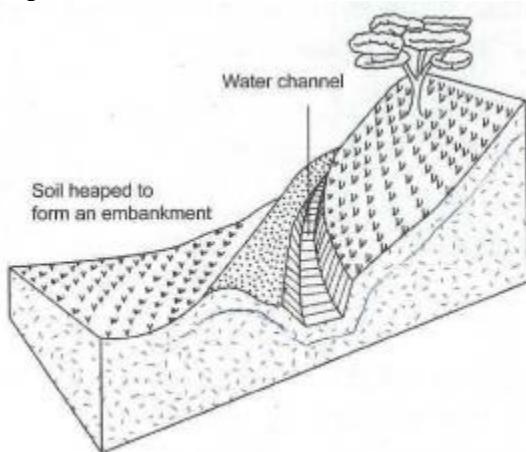
16. Give a reason why striga weed is referred to as a parasitic weed. (1/2mk)

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17. State **three** advantages of organic mulch in crop production (1 1/2mk)

SECTION B (20 MARK)

18. The illustration below indicate a type of soil and water conservation measure. Study it and answer questions that follow.



(a) Identify the structure illustrated above. (1mk)

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(b) State **two** areas where the structure above discharge its water to (2mks)

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(c) A part from the above name two other structural physical soil and water conservation measures. (2mks)

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19. Study the farm record illustrated below and answer questions that follow.

Name of person	Pay roll no.	Days					Days worked	Rate of pay (Ksh)	Total pay (Ksh)	Signature of workers
		1	2	3	4	5				
Mrs X	08						25	@ 100/=	2500/=	
Mr Y	09						25	@ 100/=	2500/=	

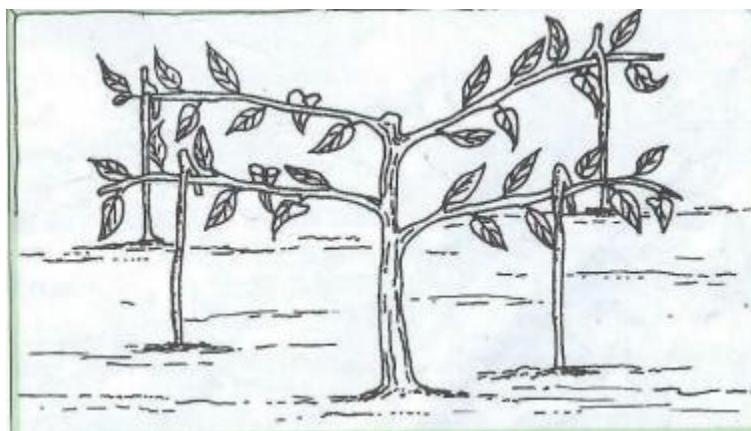
(a) Identify the type of record illustrated above. (1mk)

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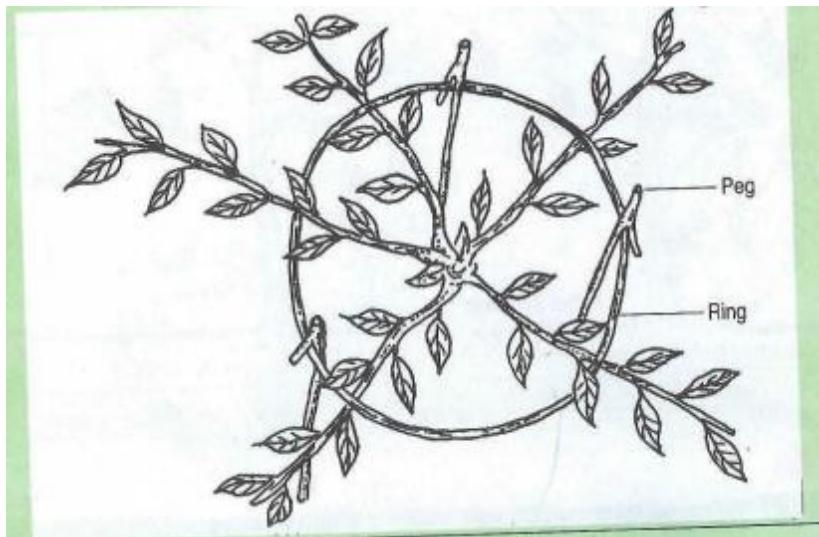
(b) Give **four** pieces of information contained in invoice. (4mks)

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20. Study the illustration of a field practice illustrated below and answer questions that follow.



Q



R

(a) Identify the illustrations labeled **Q** and **R** above (2mks)

(i) Q

.....

(ii) R

.....

(b) Give reason for carrying out the practice above. (1mk)

.....

(c) Name **two** methods of pruning coffee. (2mks)

.....

21. A farmer was asked to apply fertilizers as follows **200kg/hac** of **DSP (40%P₂O₅, 150kg/hac** of Muriate of potash **60% K₂O, 150kg/hac** of sulphate of ammonia **20%N**.

(a) How much **P₂O₅** did the farmer apply per acre? (1mk)

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(b) How much **K₂O** did the farmer apply per acre? (1mk)

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(c) How much Nitrogen (N) did the farmer apply per hectares? (1mk)

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- (i) Calculate the amount of filler material in the double superphosphate (DSP) used above. (1mk)

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- (ii) Differentiate between **complete** and **incomplete** compound fertilizer. (1mk)

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SECTION C (40 MARKS)

22. (a) Describe the production of beans under the following sub-headings.

- (i) **Planting** (3mks)

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- (ii) **Field Management practices** (4mks)

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- (b) (i) Describe the procedure of **harvesting pyrethrum**. (3mks)

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- (ii) Give one precaution observed when harvesting pyrethrum. (1mk)

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- (d) Explain **five** factors that determine the choice of type of irrigation method. (5mks)

23. (a) Explain **five** ways in which biotic factors influences crop production negativity. (5mks)

(b) Outline **seven** functions of a farm manager. (7mks)

(c) Explain **eight** cultural measures of controlling pests. (8mks)

24. (a) State and explain **four** factors that determine elasticity of demand. (8mks)

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.....
(b) State **five advantages of timely planting. (5mks)**

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(c) Explain **seven effects of fragmentation and sub-division of land in Agriculture. (7mks)**

PAPER 2 SECTION A (30 MARKS)

1. Give the appropriate term used to refer to each of the following.
 - a) Young one of a rabbit. $(\frac{1}{2}mk)$
.....
 - b) Mature female cattle. $(\frac{1}{2}mk)$
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2. State **three** factors that determine the effectiveness of an acaricide. $(1\frac{1}{2}mk)$
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3. Outline **four** factors considered when formulating a livestock ration. $(2mks)$
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4. List **three** methods used in selection of breeding stock in livestock production. $(1\frac{1}{2}mk)$
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5. State how each of the following practices help to control livestock diseases.
 - a) Quarantine $(\frac{1}{2}mk)$
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.....
 - b) Prophylactic measures. $(\frac{1}{2}mk)$
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6. State **four** reasons for seasoning timber. $(2mks)$
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7. Give **two** processes carried out by a combine harvester when harvesting wheat. (1mk)

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8. State **two** functions of lubrication system in a tractor. (1mk)

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9. State **four** factors that stimulate milk let-down in a lactating cow. (2mks)

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10. Give **two** reasons for using litter in a poultry house. (1mk)

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11. Give **four** conditions that reduce the quality of eggs for hatching. (2mks)

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12. State **four** ways of restraining cattle during routine management. (2mks)

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13. Give the use of each of the following workshop tools.

a) Cold chisel. ($\frac{1}{2} \text{mk}$)

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.....

b) Rip saw. ($\frac{1}{2} \text{mk}$)

14. Give **four** reasons why colostrum is important in calf feeding. (2mks)

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15. State **four** harmful effects of lice in pigs. (2mks)

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16. Give **four** reasons for swarming of bees. (2mks)

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17. State four factors that lead to an increase in the respiratory rate of livestock. (2mks)

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18. Outline **four** signs of heat in rabbits. (2mks)

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19. Name **two** nutritional diseases in cattle. (1mk)

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SECTION B (20 MARKS)

20. The photograph below represents an external parasite of livestock. Study it carefully and answer the questions that follow.



- a) Identify the parasite. (1mk)

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- b) What is the economic importance of the parasite to a livestock farmer? (1mk)

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.....

- c) State **three** non-chemical methods of controlling the above parasite. (3mks)

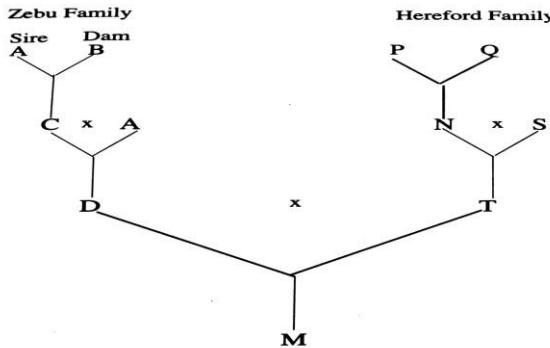
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21. The illustration below shows two different livestock families. Use it to answer the questions that follow.



- a) Identify the breeding system between

- i) C and A (1mk)

.....

- ii) D and T (1mk)

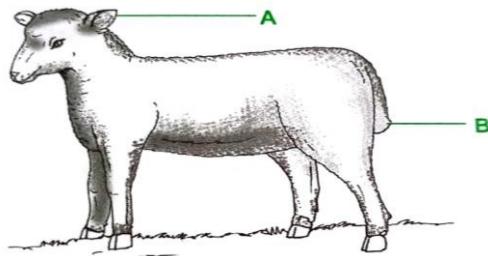
b) State **two** advantages of the breeding system identified in a) ii) above (2mks)

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c) What name is given to offspring M. (1mk)

.....

22. Below is a diagram of sheep. Study it carefully and answer the questions that follow.



a) Name the management practice carried out in the part labelled B if the sheep is an ewe. (1mk)

.....

b) Name one tool in each case that can be used to carry out operations on the parts labelled A and B. (2mks)

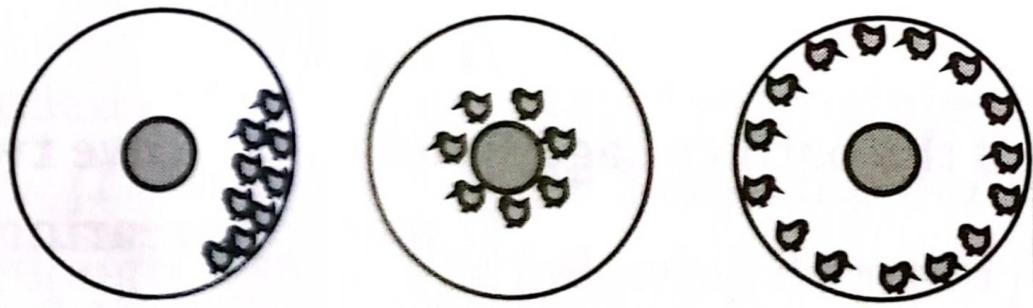
A.....

B.....

c) What is raddling as used in the management of sheep. (1mk)

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23. The following illustration show the behavior of chicks at different temperatures in a brooder



C

D

E

- a) Explain the temperature conditions in each of the four diagrams C, D, E (3mks)

C.....

D.....

E.....

- b) Draw a diagram to show the behavior of the chicks if the temperature in the brooder is the right one. (1mk)

- c) Explain why the brooder guard is rounded. (1mk)

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SECTION C (40 MARKS)

24. a) Discuss foot and mouth disease under the following sub headings:

- i) Causal organism (1mk)
- ii) Livestock species attacked (2mks)
- iii) Symptoms of attack. (4mks)
- iv) Control measures. (3mks)

- b) Explain **five** factors that affect digestibility of food in livestock. (5mks)

- c) State **five** advantages of a four stroke cycle engine. (5mks)

25. a) Explain the procedure of establishing a fish pond. (5mks)

- b) Outline **five** differences between exotic cattle breeds and indigenous cattle breeds. (5mks)

- c) State the features of an ideal calf pen. (5mks)

- d) Outline **five** symptoms of round worm infestation in cattle. (5mks)

26. a) Describe the preparation and management of a brooder before and after the arrival of day old chicks. (5mks)

- b) Describe the uses of various equipment that are used in honey harvesting. (5mks)

- c) Give **five** advantages of farm mechanization. (5mks)

- d) Outline **five** factors considered when selecting construction materials. (5mks)

SERIES 2

PAPER 1 SECTION A (30 marks)

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

1. Give four reasons why green manure is not commonly used (2mks)

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2. State **four** conditions under which shifting cultivation is favorable. (2mk)

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3. List four ways in which a farmer can adjust to risks and uncertainties. (2mks)

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4. State **three** ways in which trees improve soil fertility. ($1 \frac{1}{2}$ mks)

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5. Give **three** causes of hardpans in cultivation. ($1 \frac{1}{2}$ mks)

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6. Under what **two** conditions does opportunity cost not exist? (lmk)

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.....

7. Give **two** roles of additives in silage making. (lmk)

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.....

8. Outline **four** advantages of mixed farming. (2mks)

9. State four physical agents of weathering in soil formation (2mks)

10. Give **four** characteristics of large scale farming. (2mks)

11. State **four** farming practices which help to improve soil structure. (2mks)

12. Give **four** effects of top dressing on a pasture. (2mks)

13. What are the two reasons for inoculating legume seeds before planting . (1mk)

14. State **two** advantages of carrying out pruning in banana production. (1mk)

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15. In maize hybrid 614 what do the following figures stand for? (1mk)

- (i) 6.....
(ii) 4.....

16. Give **four** methods of land acquisition. (2mk)

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17. Name **four** practices carried out to improve and maintain permanent pasture. (2mks)

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18. Give **two** advantages of tissue culture. (2mks)

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SECTION B [20 Marks]

Answer all the questions in this section in the spaces provided

19. The diagram below shows a nursery practice carried out soon after tree seedlings have emerged.



(a) Identify the practice (1mk)

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(b) Give two reasons for carrying out the above practice(2mks)

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(c) State one precaution that should be observed in the practice illustrated in relation to the direction of the sun(1mk)

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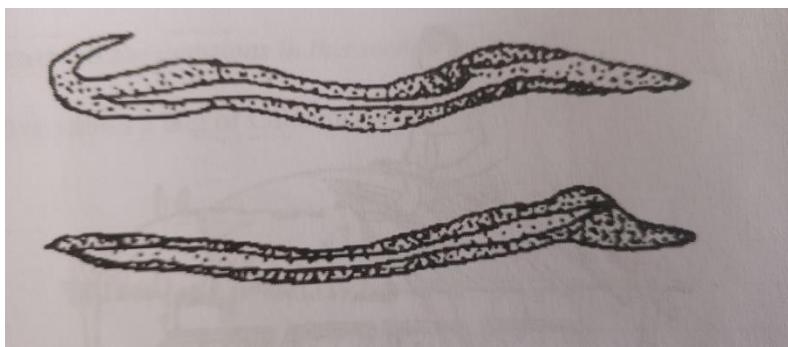
(d) Name the type of a nursery bed illustrated. (1mk)

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(e) Other than the practice above name two practices that can be carried out in the nursery bed.(2mks)

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20.The diagram below shows a soil borne pest that attacks plant roots.



(a)Identify the pest (1mk)

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(b)State two symptoms of attack by the pest in tomato production. (2mks)

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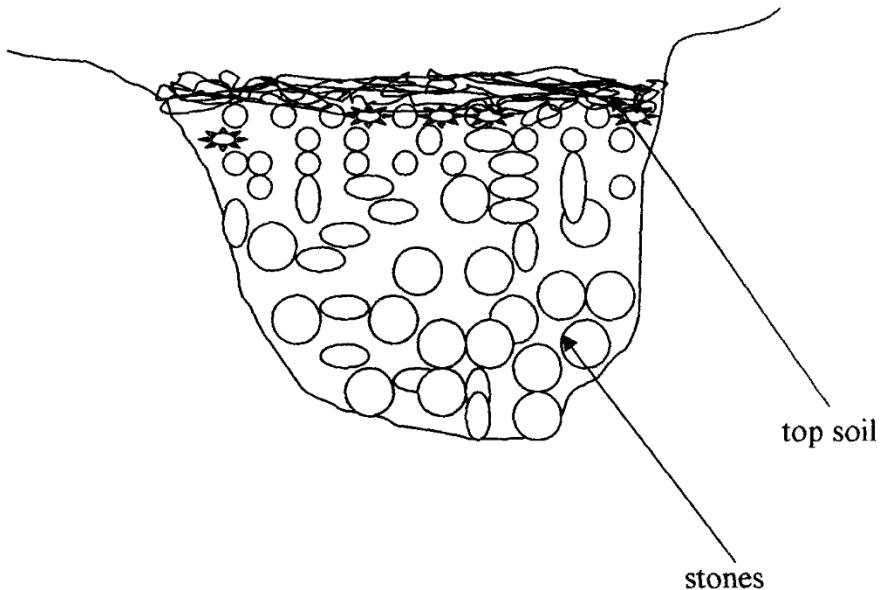
(c)state two control measures for the pest. (2mks)

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(d) Name the crops attacked by the pest. (2 marks)

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21.Study the diagram below then answer the questions that follow:



(a) Identify the method of drainage above. (1mks)

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(b) State other **three** methods used to drain swampy areas. (3mks)

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(c) Give **four** importance of drainage. (2mks)

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SECTION C (40MKS)

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

- 22.(a)** Describe the cultural methods of weed control in crop production. (10mks)

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

23(a) Discuss the human factors which influence agriculture. (10 marks)

(b) Explain five factors to consider when choosing the planting time. (10 marks)

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24Describe the production of carrots under the following sub headings

- a) Seedbed preparation (3 marks)

- b) Harvesting (4 marks)

- c) Explain five factors influencing soil erosion. (10 marks)

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d) Outline three roles of sulphur in crop production. (3 marks)

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PAPER 2 SECTION A (30 MARKS)

Answer All questions in the spaces provided

1. Name **four** pre-disposing factors to livestock diseases (2 marks)

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2. State **four** factors that stimulate milk let down in a lactating cow. (2 marks)

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3. Name **two** methods of extracting honey from combs. (1 mark)

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4. Give **four** factors determining the amount of water taken by an animal. (2 marks)

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5. State **four** mechanical methods of controlling ticks. (2 marks)

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6. Give **four** disadvantages of inbreeding in livestock production. (2 marks)

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7. State any **two** practices that may be carried out to control breeding diseases among cattle (2 marks)

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8. State **four** characteristics of a good grain store (2 marks)

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9. State **four** prophylactic measures and treatment used to control livestock diseases (2marks)

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10. Name **four** signs of heat observed in a rabbit. (2 marks)

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11. Give **four** advantages of four stroke engines. (2 marks)

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12. State **four** advantages of artificial calf rearing in dairy cattle management . (2 marks)

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13. Name any two advantages of flushing in ewe. (1mark)

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14. Give **two** advantages of keeping Jersey cow instead of Friesian. (2 marks)

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15. Name **four** properties of a good vaccine (2 marks)

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16. Give **four** characteristics of indigenous cattle (Bos indicus) (2 marks)

SECTION B (20 MARKS)

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

17. A farmer is required to prepare 100 kg of ration of 30% digestible crude protein (DCP) from simsim seed cake containing 50% DCP and maize meal 10% DCP. Using Pearson's square method calculate the amount of simsim and maize the farmer requires. (4marks)

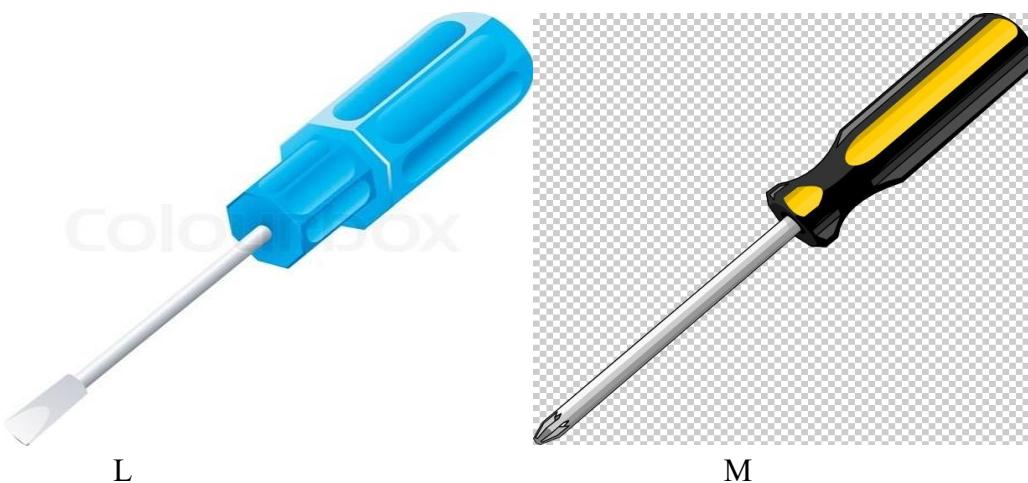
18. The diagram below illustrates a hoof of a sheep. Study it carefully and answer the questions that follow



a) Name the routine management practice that should be carried out on the hoof illustrated above. (1 mark)

.....
(b) State two reasons for carrying out the management practice in (a) above (2 marks)
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19. The photographs below are workshop tools. Study them and answer the questions that follow.



i) Identify the tools L and M (1 mark)

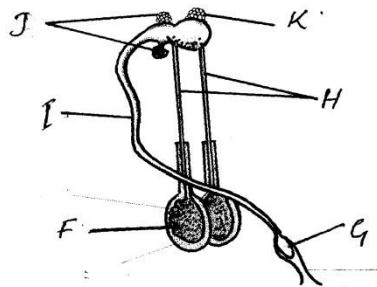
L.....

M.....

ii) Give the functional difference between the following tools labeled L and M. (2 marks)

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20. 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 (4marks)

I.....

J

K.....

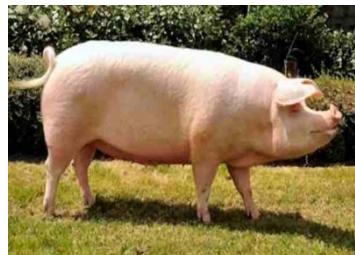
G.....

b) Give the functions of the parts labeled F and H (2 marks)

F.....

H.....

21. The photographs labeled D and E are pig breeds. Study them and answer the questions that follow.



D



E

a) Identify the breeds D and E (1 mark)

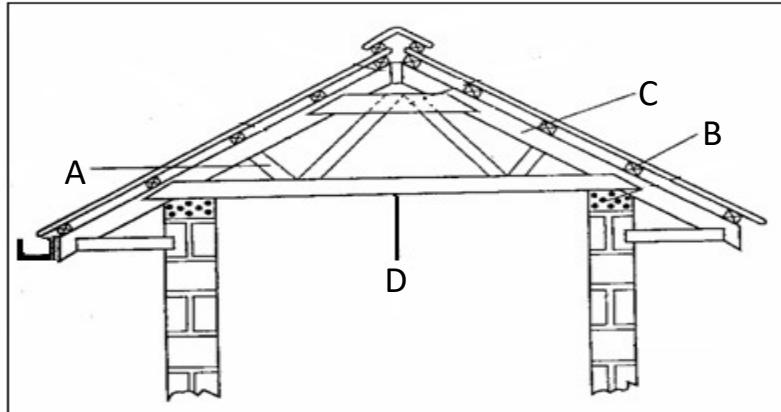
D-.....

E-

b) Name the part labeled G on the diagram E (1 mark)

.....

22. The diagram below represents roof of a building.



(i) Identify the parts labeled A, B, C. (2marks)

A

B.....

SECTION C 40 MARKS

**ANSWER ONLY TWO QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED
AFTER THE QUESTIONS**

23.a) Describe five advantages of battery cage system in poultry rearing. (10 marks)

b) Outline the procedure of training a calf for bucket feeding. (5 marks)

c) Outline signs of tapeworm infestation in livestock. (5marks)

24.a) Give the functional differences between a disc plough and a mould board plough. (8marks)

b) Explain four factors considered when siting farm structures. (8 marks)

c) Outline four ways in which infectious diseases can spread in livestock production. (4 marks)

25. a) Describe foot rot under the following sub-heading;

i) Animals affected (1 mark)

ii) Causal organism (1mark)

iii) Symptoms of attack (4marks)

IV) Control measures (4marks)

b) Describe the functions of various parts of a plunge dip.(10 marks)

SERIES 3

PAPER 1 SECTION A (30 MARKS)

Answer all questions in this section

1. Highlight **two** reasons for early land preparation. (1 mk)

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2. Give **two** examples of Variable costs in the production of beans. (1 ½ mks)

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3. What is the relationship between scarcity, preference and choice. (2 mks)

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4. State **two** conditions under which the opportunity cost is zero or does not exist. (1 mk)

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5. State **four** importance of raising tomato seedlings in a nursery bed. (2 mks)

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6. Give **four** factors that affect the ensiling process. (2 mks)

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7. Give **two** examples of Books of Accounts. (1 mk)

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8. Give two reasons for imposing quarantine on imported planting materials. (1 mk)

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9. Give **three** factors that may influence the price of an agricultural commodity. (1 ½ mks)

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10. Name **three** examples of leguminous fodder crops. (1 $\frac{1}{2}$ Mks)

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11. Give **two** factors that may determine the size of a pit for silage making. (1mk)

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12. Give three reasons for controlling weeds in pastures. (1 $\frac{1}{2}$ Mks)

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13. State **six** characteristics of a productive soil. (3 mks)

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14. A member of young farmers club was advised to apply a complete fertilizer 30:20:10 in a tomato plot measuring 10m long by 5m wide at the rate of 300kg per hectare

(a) State the percentage of P_2O_5 in the complete fertilizer. (1mk)

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(b) Calculate the amount of fertilizer the member would require for the plot (2 mks)

(Show your working)

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15. State four ways of controlling bean anthracnose disease (2mks)

16. Apart from training and extension services, state four other agricultural support services the Kenyan government provides to a maize farmer. (2 mks)

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

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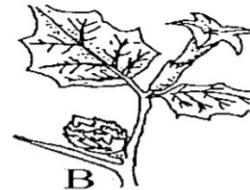
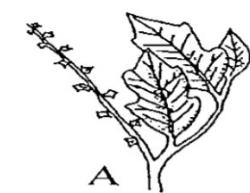
18. Give two forms in which nitrogen is absorbed from the soil by plants (1 mk)

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SECTION B: (20 MARKS)

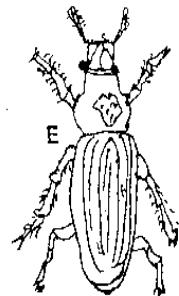
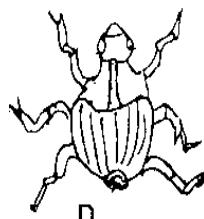
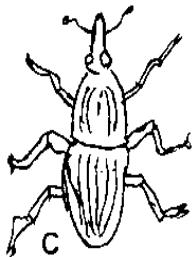
Answer all questions in this section

19. Study the weeds illustrated below and answer the questions that follow



- a) Identify the weeds shown (4mks)
- A.....
- B.....
- C.....
- D.....
- b) Give one economic importance of each one of the weeds (2mks)
- A-
- B-
- c) State the advantage of weed C on the farm (1 mk)
- d)
- e) Why is weed D difficult to control (1mk)
-

20. The diagrams below represent some pests. Study them and answer the questions that follow.



i) Identify the pest labeled C, D and E (3 mks)

C.....

D.....

E.....

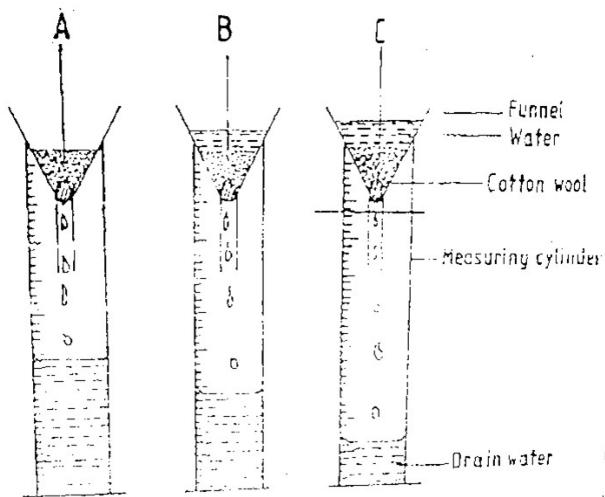
ii) Give one reason why pest E is not controlled chemically (1 mk)

.....
.....

iii) State two non-chemical methods of controlling pest C and D (1 mk)

.....
.....

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



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

.....
.....

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

i) Soil sample A (1 mk)

.....
.....

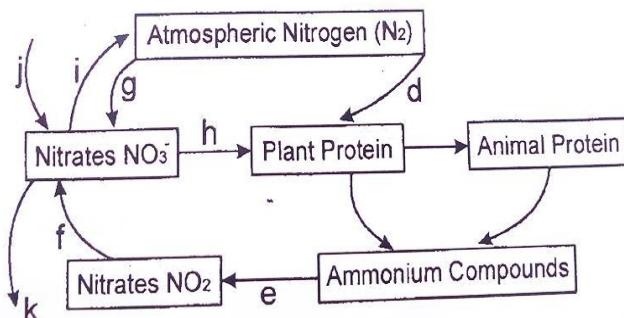
ii) Soil sample B (1 mk)

.....
.....

c) State one way in which the soil structure of the sample labeled C above can be improved (1 mk)

.....
.....

22. Study the illustration below which illustrates a series of changes.



a) Identify the process (1 mk)

.....

Name the organism involved in the series represented by d (1 mk)

D-

b) Identify the processes represented by h and i (1mks)

H-

I-

SECTION C: (40MARKS)

Answer any two questions from this section

23 a).Describe the field production of dry beans under the following sub headings

i). Planting (5mks)

ii) Weed control (2mks)

iii) Harvesting (5mks)

b) Outline **four** problems associated with manure use in agricultural production (4 mks)

c) Give **four** characteristics of plants suitable for green manure (4 mks)

24 a) Explain **ten** factors that can encourage soil erosion. (10marks)

b) Describe the seven management practices that should be carried out on a vegetable nursery after sowing seeds until the seedlings are ready for transplanting. (7 marks)

c) Describe the precautions that should be observed during the harvesting of pyrethrum. (3 mks)

25 a). Explain eight factors that should be considered when planning to set up a farm business. (8 mks)

b) The information below was extracted from the financial valuation of Uwezo Micro-farm at the end of the year 2017.

ITEM	VALUE IN KSHS
Tools in store.....	10,000
Cattle feed in store	4,000
Office equipment	1,400
Calves	5,000
Machinery	4,000
Land	260,000

Seven Mature sheep.....	7,000
Buildings	126,000
Maize in store	19,000
Daily cattle	55,000

On the same date, the farm had Kshs 50000 in the bank and owed KFS kshs 4500 for fertilizers and 5000 to Unga ltd for feeds delivered and 12000 for laborers' wages. KCC owed the farm 5000 for fresh milk delivered.

Draw up a balance sheet for Uwezo Micro farm as at 31st December 2017. (12marks)

PAPER 2 SECTION A: (30 MARKS)

Answer all questions in this section in the spaces provided.

1. State four external predisposing factors of livestock diseases. (2 mks)
.....
.....
.....
.....
2. List three importance of flushing in sheep management. (1 ½ mks)
.....
.....
.....
3. Give three reasons why honey harvesting is discouraged at night. (1 ½ mks)
.....
.....
.....
4. State two distinguishing external characteristics of California white rabbit. (2 mks)
.....
.....
5. Name two maintenance practices of an ox-cart. (1 mk)
.....
.....
6. Name three types of calf pens that can be constructed on a farm. (1 ½ mks)
.....
.....
.....
7. Name the set of tools used for the following farm operations.
 - (a) Controlling bloat. (1 mk)
.....
 - (b) Restraining an animal during an agricultural show exhibition. (1 mk)
.....
8. Give three control measures of fleas in a flock of layers. (1 ½ mks)
.....
.....
.....
9. Give four reasons for raddling in sheep management. (2 mks)
.....
.....
.....
.....

10. State four roles played by the engine oil in a tractor. (2 mks)

.....
.....
.....
.....

11. List four components of power transmission system in a tractor. (2 mks)

.....
.....
.....
.....

12. Identify the following breeds of livestock:

(i) A pig with dished face, erect ears and white colour (1k mk)

.....
(ii) A beef breed of cattle which is cream in colour and the male weighs upto 1200kg

.....
(iii) A breed of goat usually with long hair (1 mk)

.....
(iv) A wool sheep with long curly wool usually covers its face (1 mk)

13. State four reasons for handling livestock in the farm. (2 mks)

.....
.....
.....
.....

14. Give two notifiable diseases in cattle. (1 mk)

.....
.....

15. Name five milking materials and equipments required during milking of a cow. (2 ½ mks)

.....
.....
.....
.....
.....

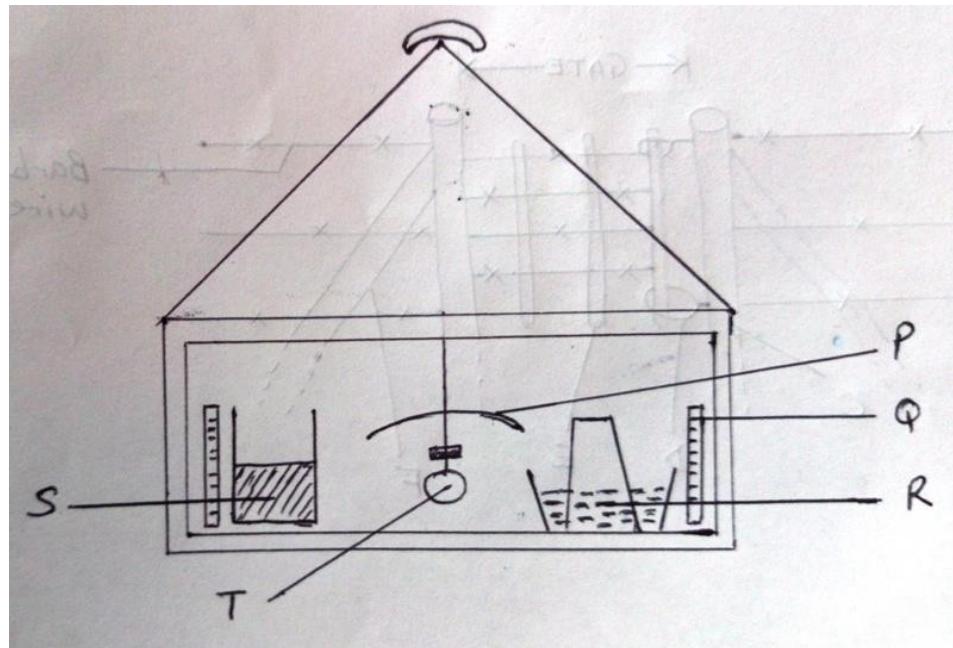
16. State three disadvantages of natural methods of calf rearing. (1 ½ mks)

.....
.....
.....

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 chicken brooder. Use it to answer the questions that follow.



- (a) Identify the parts labeled P,Q,R,S and T. (2 ½ mks)

P

Q

R.....

S.....

T.....

- (b) What is the purpose of the part labeled Q? (1 mk)

.....

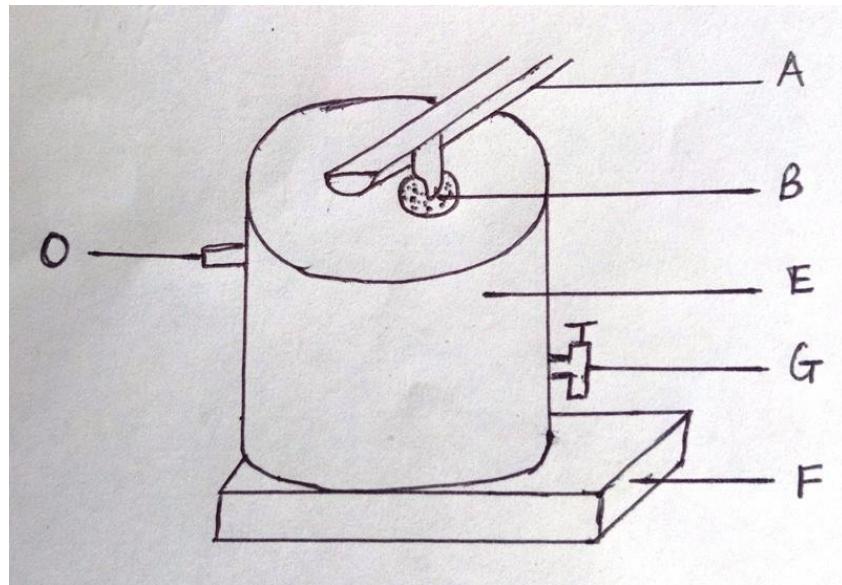
- (c) State two ways by which temperature in the brooder may be raised. (2 mks)

.....

- (d) Name any material that would be suitable for use as litter in the brooder. (½ mks)

.....

18. The diagram below represents parts of a water harvesting structure. Study it carefully and answer the questions that follow.



- (a) Name the parts labeled A and O on the diagram. (2 mks)

A

O

- (b) Identify the method of water harvesting illustrated. (1 mk)

.....

- (c) State the use of the part labeled B. (1 mk)

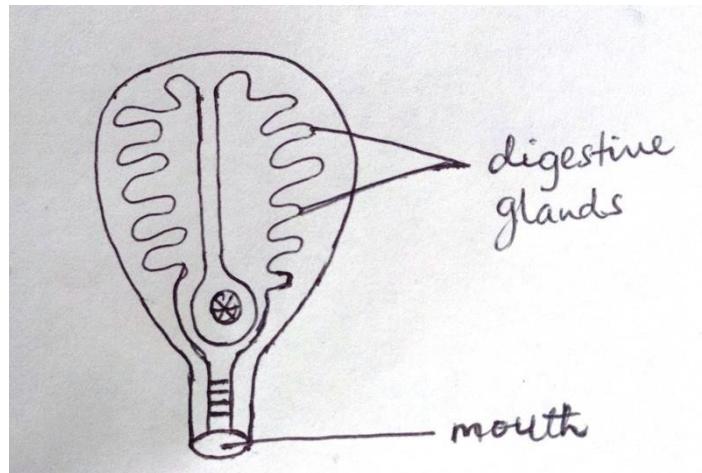
.....

- (d) State two maintenance practices needed for part labeled E. (2 mks)

.....

.....

19. The diagram below shows a livestock parasite. Study it and answer the questions that follow.

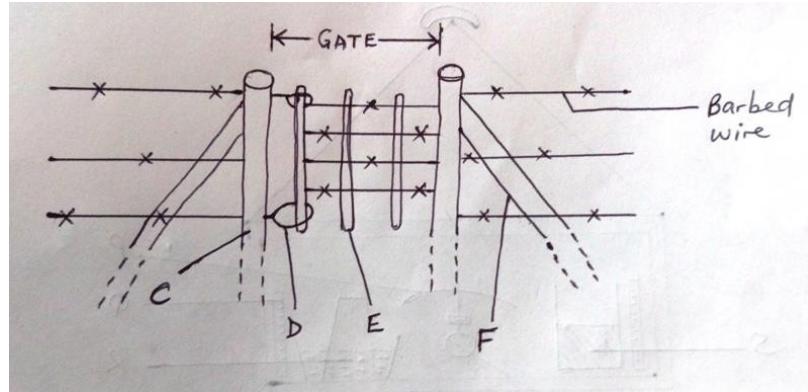


(a) Name the parasite. (1 mk)

.....
(b) Name the final host of the parasite and the part of the body of the host where it is found. (2 mks)

.....
(c) State the intermediate host of the parasite. (1 mk)

20. The diagram below shows a type of a farm gate. Study the diagram and answer the questions that follow.



(a) Identify the type of gate shown. (1 mk)

.....
(b) Name the parts labeled C, D and E. (3 mks)

.....
(c) State one function of the part labeled F. (1 mk)

SECTION C: (40 MARKS)

Answer any two questions from this section on the answer sheets provided.

21. (a) Outline the procedure of training a calf for bucket feeding. (5 mks)

.....
(b) Highlight the advantages of artificial incubation. (5 mks)

.....
(c) Explain various practices used to prevent livestock diseases. (10 mks)

22. (a) Explain the various uses of livestock in the farm. (10 mks)

.....
(b) Identify and explain the various conditions that pre-dispose livestock to diseases in the farm. (10 mks)

23. (a) Explain the limitations of tractor power in the farm. (6 mks)

.....
(b) Explain the operational differences between a disc plough and a mouldboard plough. (8 mks)

.....
(c) Discuss the advantages of four stroke engines on the farm. (6 mks)

SERIES 4

PAPER 1 SECTION A (30 MARKS)

Answer all questions in this section in the spaces provided.

1. State **four** entries in a breeding record in pigs production. (2mks)

.....
.....
.....
.....

2. Give **three** ways of classifying pasture. (1½ mks)

.....
.....
.....

3. Name **two** liming materials used in the farm. (2mks)

.....
.....

4. Name **four** financial books used in farm account. (2mks)

.....
.....
.....

5. Name **four** classes of livestock farming. (2mks)

.....
.....
.....

6. State **four** measures of National economic development of a country. (2mks)

.....
.....
.....

7. Name **four** fresh market tomato varieties. (2mks)

.....
.....
.....

8. State **four** disadvantages of chemical weed control. (2mks)

.....
.....
.....

9. State four importance of practicing Agroforestry. (2mks)

.....
.....

10. State **three** types of production functions in Agriculture. (1½ mks)
.....
.....
.....

11. State **four** advantages of Landlordism and tenancy land tenure system. (2mks)
.....
.....
.....
.....

12. State **four** effects of living organism in crop production. (2mks)
.....
.....
.....
.....

13. Name **four** types of Terraces used in soil and water conservation. (2mks)
.....
.....
.....
.....

14. Name **two** types of pruning in coffee. (2mks)
.....
.....
.....
.....

15. State **three** functions of Agricultural finance cooperation (AFC). (1½ mks)
.....
.....
.....

16. State three sources of capital for starting Agricultural activity. (1½ mks)

SECTION B (20 MARKS)

Answer all questions in this section in the spaces provided.

17. The diagrams below are planting materials used in crop propagation,



- i) Name the planting materials A and B above
- A (1mk)
B (1mk)
- ii) Apart from grass, name other crop propagated using material **B** (1mk)
-
- iii) State any two factors that determine rooting in A. (2mks)
-
.....
.....

18. Below is practice done during management of agroforestry tree seedling in a nursery, use it to answer the questions that follows.



- i) Identify the practice. (1mk)
-
- ii) State three importance of the practice. (3mks)
-
.....
.....
.....
- iii) State one disadvantages of the practice. (1mk)
-
.....

19. Some students carried an experiment in the laboratory, the following procedure was followed.

- i) Put about 50g of a garden soil in 250cm³ measuring cylinder.
- ii) Added about four times its volume of water containing sodium carbonate.
- iii) Covered the cylinder with the hand and shaked vigorously for about two minutes.
- iv) Placed the cylinder on the bench and for one hour to allow for the content to settle as shown below.



i) State the aim of the experiment. (1mk)

.....
ii) What is the role of sodium carbonate in the experiment? (1mk)

.....
iii) Explain the observation in the cylinder after the one hour. (2mks)

.....
iv) Identify a control experiment for the above set up. (1mk)

20. The diagram below represents a weed which is commonly found in the farm.



i) Name the weed above. (1mk)

.....
ii) Classify the weed based on morphology. (1mk)

.....
.....
.....
iii) Name two crops commonly associate with the weed. (2mks)

.....
.....
iv) Identify the effect of the weed on the above named crops. (1mk)
.....
.....

SECTION C (40 MARKS)

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

21. (i) Describe various ways of classifying pests. (5mks)
(ii) State **seven** effects of weeds. (7mks)
(iii) Describe **four** ways by which the government may help farmers to increase maize production for food security in Kenya. (8mks)
22. (i) Describe factors to consider when sitting a nursery bed. (5mks)
(ii) Describe water treatment process. (10mks)
(iii) State any **five** principles of cooperative societies. (5mks)
23. Describe beans production under the following sub-headings
i) Selection and preparation of planting material. (3mks)
ii) Land preparation. (3mks)
iii) Planting. (3mks)
iv) Post harvest practices. (4mks)
v) State **seven** effects of pest in crop production. (7mks)

PAPER 2 SECTION A (30MARKS)

Answer all the questions in this section in the spaces provided

1. a) Name any **two** viral diseases which affect each of the following livestock. (2 marks)

- i) Cattle

.....

- ii) Poultry

.....

- b) Give **four** reasons for feeding a lamb on colostrum (2 marks)

.....

.....

.....

2. Name **one** intermediate host for each of the following livestock parasites

- i) Liver fluke (*Fasciolaspapp*) (1/2 mark)

.....

- ii) Tapeworm(*Taeniaspp*) (1/2 mark)

.....

3. Give **two** reasons for raddling in sheep management. (1 mark)

.....

.....

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

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

5. Give **two** reasons for maintaining wheelbarrow in good working conditions. (1 mark)

.....

.....

6. Differentiate between the following tools

- i) Bastard file and rasp file (1 mark)

.....

-
- ii) Copying Saw and hacksaw (1 mark)
-
-
-
-
-
7. State **four** reasons for artificial calf rearing in dairy calf management. (2 marks)
-
-
-
-
-
8. State **four** harmful effects of tsetse fly (*Glossinaspp*) (2 marks)
-
-
-
-
9. Give **four** reasons for steaming in dairy calf management (2 marks)
-
-
-
-
10. State **four** limitations of using hydro- electric power on the farm (2 marks)
-
-
-
-
11. State **four** ways of restraining cattle during routine management. (2 marks)
-
-
-
-
12. Name **two** livestock diseases that are caused by protozoa. (2 marks)
-
-
-
-
13. What is meant by each of the following terms as used in livestock health. (2 marks)
- i) Incubation period
-
- ii) Mortality rate
-
-
14. Give **four** reasons for rearing indigenous cattle in marginal areas in Kenya. (2 marks)
-
-
-
-

15. State **two** conditions that may inhibit milk let-down during milking. (2marks)

.....

16. State the reasons for maintaining the following conditions during artificial incubation of in poultry production (2 marks)

- i) proper ventilation

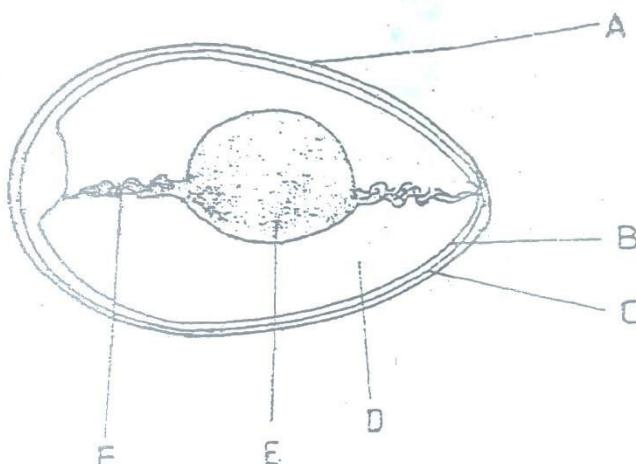
.....

- ii) Relative humidity at 60%

.....

SECTION B (20 MARKS)

Answer all questions in this section in the spaces provided



17. The diagram below is an illustration of an egg

Name the parts labeled B, C, D and F (2 marks)

B.....

C.....

D.....

F.....

- a) State **two** qualities of the parts labeled that should be considered when selecting eggs for incubation. (2 marks)

.....

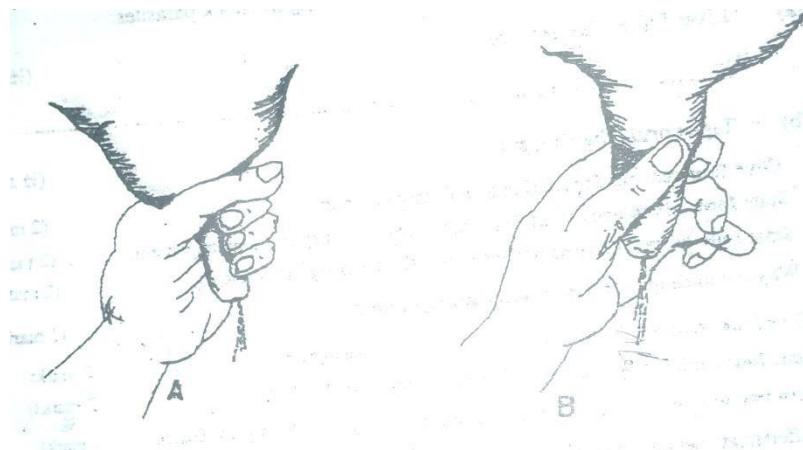
.....

.....

- b) What is the function of the parts labeled E in a fertilized egg. (1mark)

.....

18. The diagram labeled A and B below illustrates two different milking techniques.



a) Identify the appropriate technique for milking (1 mark)

b) Describe the procedure of milking technique in (a) above (2 marks)

.....
.....
.....
.....
.....

c) State **two** disadvantages of using a wrong milking technique (2 marks)

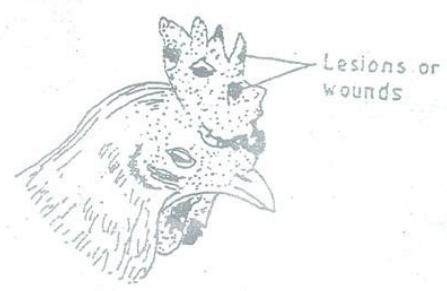
.....
.....
.....

19. The diagram below illustrates the hoof of a sheep



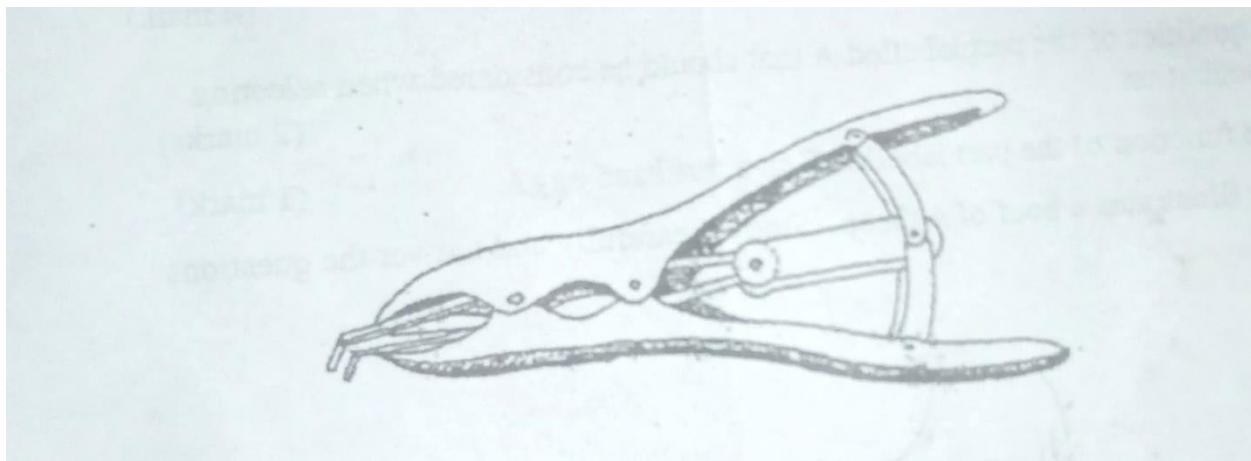
- a) Which routine practice should be carried on the hoof illustrated above.
(1marks)
-
- b) State **two** reasons for carrying out the routine practice in (a) above. (2 marks)
-
-

20. Use the diagram below illustrating a symptom of a disease in poultry to answer the questions that follows.



- (a) (i) Identify the disease (½ mark)
-
- (ii) The causal organisms (½ mark)
-
- b) Apart from lesions, state **two** other symptoms (2marks)
-
-
- c) State **two** control measures for the disease . (2marks)
-
-

21. Below is an illustration of livestock management equipment.



- a) Identify the equipment. (1 mark)
.....
- b) State the use of the equipment. (1mark)
.....

SECTION C (40 MARKS)

Answer any two questions in this section in the spaces provided

22. (a) Describe **Ten** symptoms of ill health in livestock. (10marks)
(b) Describe steps followed when computing feed ration using Pear ‘sons square method (10marks)
23. (a) Outline **Five** benefits of using biogas as source of power on the farm. (5marks)
(b) Give **five** advantages of using a sub-soiler seedbed preparation. (5marks)
(c) Explain **Five** factors a Farmer should consider when siting a bee hive to prevent swarming of bees. (10marks)
24. (a) Describe the lifecycle of a named Tapeworm (*Taeniaspp*). (10marks)
(b) Describe the process of egg formation in the reproductive system of a hen. (10 marks)

PAPER 1 SECTION A (30 marks)
Answer ALL questions from this section.

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

2. Give **four** factors that can increase seed rates in crop production.

(2 marks)

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

4. Give **four** reasons for practicing minimum tillage. (2 marks)

5. What is meant by each of the following in crop production?

(a) Crop rotation; (1 mark)

(b) Mulching. (1 mark)

6. Give **four** reasons for inverting soil slices during primary cultivation. (2 marks)

7. State **four** cultural Ways of controlling couch grass (*Digitaria scalarum*).

(2 marks)

8. (a) Name **three** vegetative parts that can be used to propagate pineapples.

(1½ marks)

(b) State **three** disadvantages of vegetatively propagating pineapples.

(1½ marks)

9. Name **three** sources of underground water. (1½ marks)

10. What is meant by each of the following in agroforestry?

- (a) Pollarding; (1 mark)

- (b) Coppicing; (1 mark)

- (c) Lopping. (1 mark)

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

(2½ mark)

12. State **two** reasons for practising agroforestry on a:

- (a) River-bank; (1 mark)

- (b) Steep slope. (1 mark)

13. State **three** disadvantages of using plastic pipes to convey water. (1½ marks)

14. State **three** causes of blossom end rot in tomatoes. (1½ marks)

15. What is meant by the term preference and choice as used in agricultural economics? (1 mark)

SECTION B: (20 MARKS)

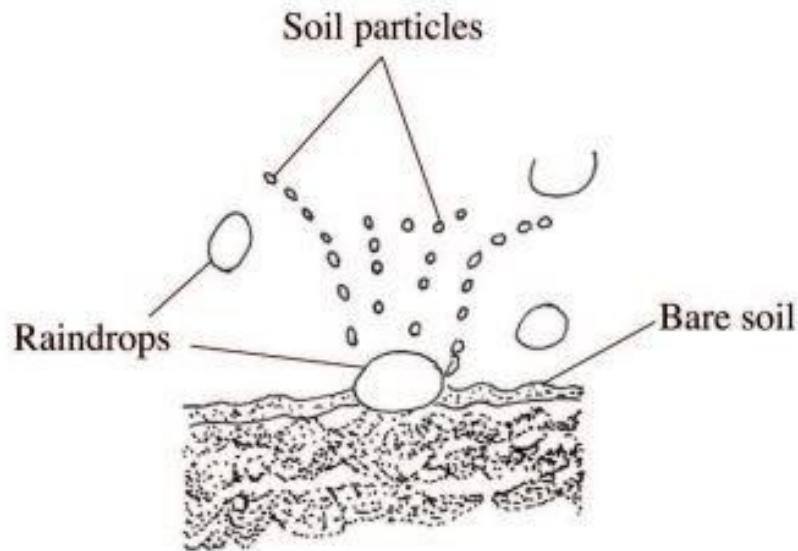
Answers all questions in this section in the spaces provided.

16. (a) Distinguish between straight and compound fertilisers. (1 mark)

- (b) A farmer applied 200 kg of CAN (20%N) per hectare on his five hectares maize crop. Calculate the amount of nitrogen the farmer applied on his crop.

Show your working. (4 marks)

17. The diagram below illustrates a type of soil erosion.



(a) Identify the type of erosion.

(1 mark)

(b) How does the type of erosion shown above occur?

(2 marks)

(c) How does cover cropping help to control the type of erosion shown above?

(2 marks)

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

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

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

(2 marks)

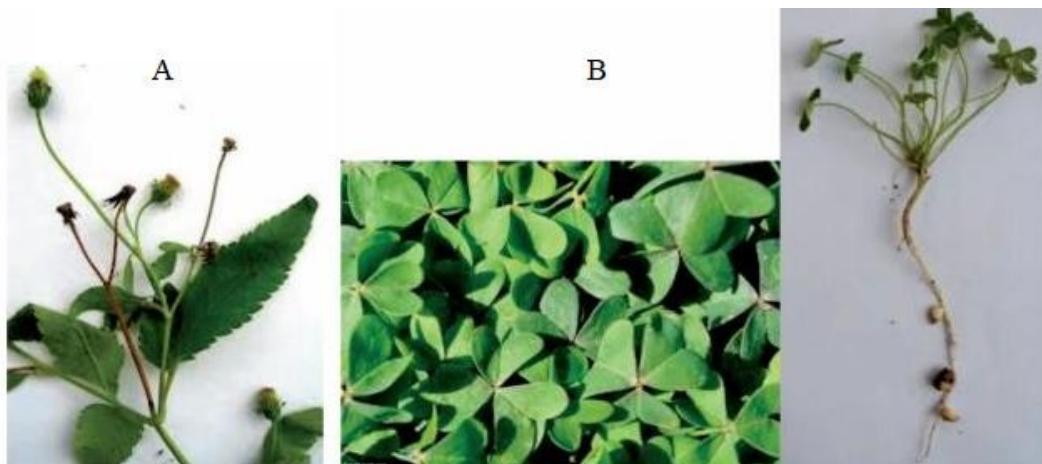
(b) Which of the two countries is more developed economically? (1 mark)

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

(d) How can agriculture increase the gross domestic product of a country?

(1 mark)

19. The photograph below shows weeds labeled A and B.



(a) Identify the weed labeled A. (1 mark)

(b) State **one** mechanical control measure for the weed labeled A. (1 mark)

(c) Which category of herbicide will be most suitable to control the weeds labelled A and B? (1 mark)

(d) Give a reason for your answer on weed B in (c) above. (1 mark)

SECTION C (40 MARKS)

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

20. (a) Describe the various risks and uncertainties in crop farming. (10 marks)

(b) State the functions of Young Farmers Clubs in Kenya. (5 marks)

(c) Give the reasons for land registration in Kenya. (5 marks)

21. (a) Explain **five** ways in which the Kenyan government can improve maize production to ensure food security in the country. (10 marks)

(b) Why is pruning done in crop production? (10 marks)

22. (a) The tables below give information on the supply and demand schedules for tomatoes on a market.

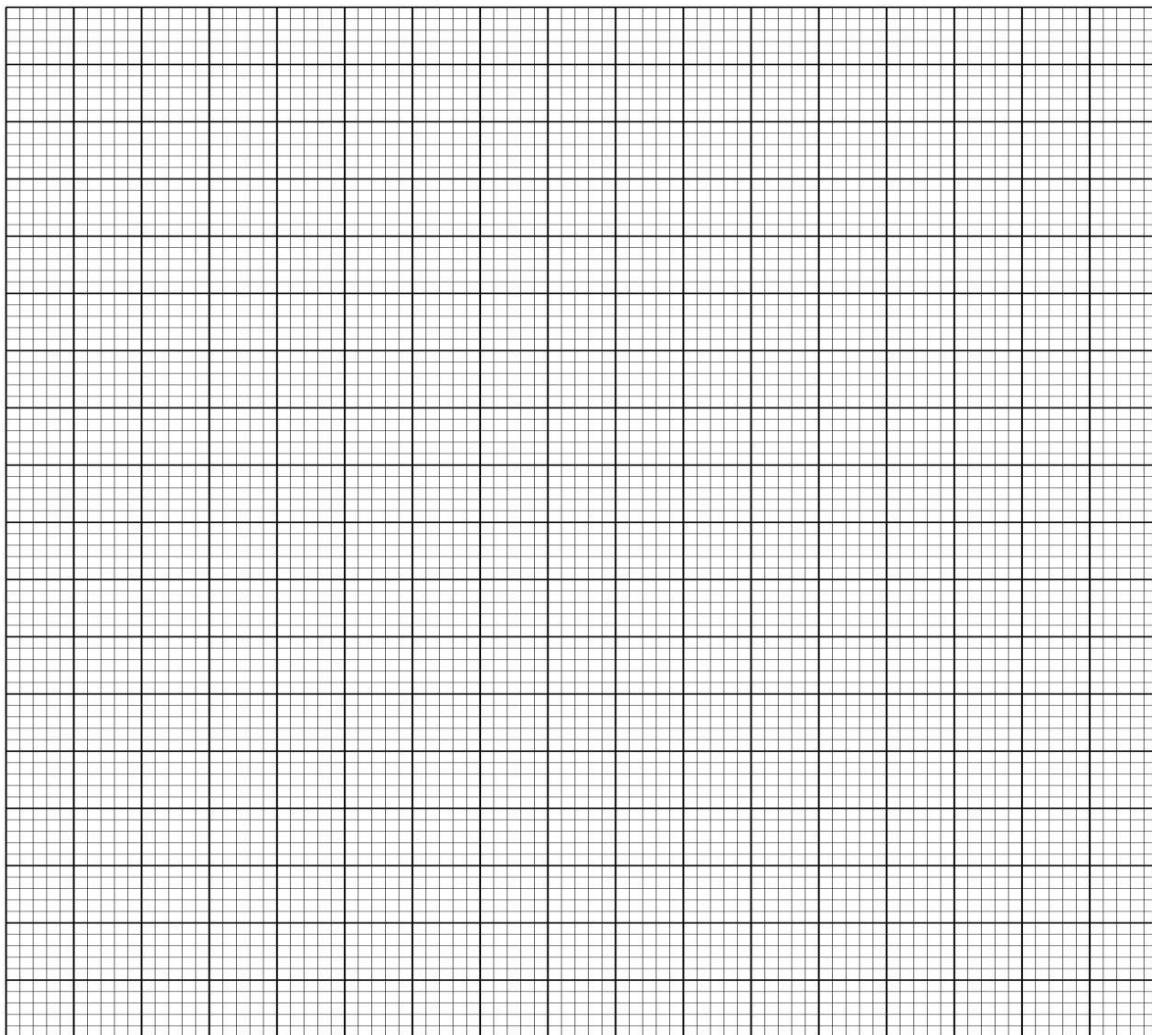
Price of quantities of tomatoes supplied

Tomatoes in(kg)	Price per kg(Ksh)
130	34
116	29.5
100	25
94	23
76	18
62	14
52	11.50
40	9
26	7
10	4

Price of quantities of tomatoes demanded

Tomatoes in(kg)	Price per kg(Ksh)
10	32.5
20	28
30	25
36	23
52	18.5
74	14
82	12.5
90	11
110	8
126	6

(i) Using the above data, plot supply and demand curves on the same axes. (7 marks)



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

(1 mark)

(iii) How many kilograms of tomatoes were bought at a market price of Ksh. 13.00?

(1 mark)

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

(b) Describe the production of maize under the following sub-headings:

(i) Seedbed preparation; (4 marks)

(ii) Planting; (3 marks)

(iii) Harvesting. (3 marks)

PAPER 2 SECTION A (30 marks)
Answer ALL questions from this section.

1. Name the **two** products obtained from dual purpose sheep. (1 mark)

2. Give **two** practices that should be done to a newly born calf with difficult breathing. (1 mark)

3. (a) What is meant by the term two host tick? (1 mark)

- (b) Give **two** examples of two host ticks in cattle. (1 mark)

4. State **four** disadvantages of using plunge dips in tick control.

(2 marks)

5. (a) State the functions of the following farm tools and equipment:

- (i) Pipe cutter; ($\frac{1}{2}$ mark)

- (ii) Wire strainer. ($\frac{1}{2}$ mark)

- (b) Name **four** tools that can be used to assemble a jembe. (2 marks)

(c) Name the complementary tool for each of the tools named below:

(i) Trochar: (½ mark)

(ii) Hand drill. (½ mark)

6. Name **two** livestock diseases controlled through embryo transplant. (1 mark)

7. State **three** factors that limit external parasite control in Kenya. (1½ marks)

8. State **four** characteristics of the Duroc Jersey pig. (2 marks)

9. Name **four** categories of poultry feeds according to the stages of growth of birds. (2 marks)

10. State **four** ways in which a vaccine can be administered to livestock. (2 marks)

11. (a) Name **three** protozoan diseases of cattle. (1½ marks)

(b) State **four** symptoms of rinderpest in cattle. (2 marks)

12. State **four** maintenance practices carried out on a spray race. (2 marks)

13. (a) Give **four** reasons for proper feeding in livestock rearing. (2 marks)

(b) State **four** good hygiene practices in livestock feeding. (2 marks)

14. State **four** reasons why kids should be weighed immediately after birth.

(2 marks)

SECTION B (20 marks)

Answer all the questions in this section in the spaces provided

15. The picture below shows a poultry farm structure.



(a) Identify the farm structure. (1 mark)

(b) Apart from metal, name **two** materials that can be used for the part labeled F. (2 marks)

(c) State **three** disadvantages of using the farm structure illustrated above in poultry rearing. (3 marks)

16. The picture below illustrates a livestock organ infested by a parasite labelled E.



(a) Name the disease the livestock is suffering from. (1 mark)

(b) Identify the parasite labeled E. (1 mark)

(c) State **two** control measures for the parasite. (2 marks)

(d) State **two** signs of infestation shown in the picture above. (2 marks)

17. The pictures below illustrate two rabbit breeds.



A



B

(a) Name the rabbit breeds shown above.

A (1 mark)

B

(1 mark)

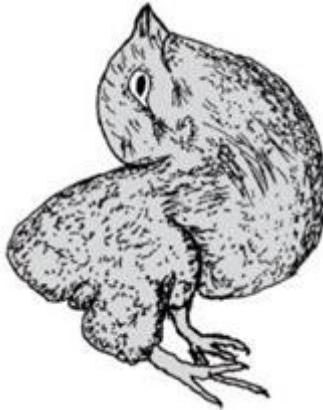
(b) Name the major feeding practice missing from the photograph labeled B.

(1 mark)

(c) Give **one** advantage of housing the rabbits on the floor illustrated above.

(1 mark)

18. The following is an illustration of a chick suffering from malnutrition.



(a) Identify the mineral deficiency shown by the chick. (1 mark)

(b) Apart from the symptom illustrated above, give **three** other symptoms of mineral deficiency in poultry. (3 marks)

SECTION C (40 marks)

Answer any two questions from this section in the spaces provided after question 21.

19. (a) Describe **ten** factors considered when selecting a breeding stock.(10 marks)
 (b) Describe the causes of low egg production in layers. (10 marks)

20. (a) Describe how the late weaning programme is conducted in a dairy calf. (12 marks)
- (b) Describe how a newly constructed pond is prepared and stocked with fingerlings. (8 marks)
21. (a) (i) Describe short-term tractor servicing. (10 marks)
- (ii) Explain the maintenance practices that should be carried out on an ox-cart. (5 marks)
- (b) State **five** indicators that can be observed on a goat to confirm sickness. (5 marks)

SERIES 6
PAPER 1 SECTION A (30MARKS)

Answer all questions in the spaces provided

1. Name **two** species of camels. (1mk)

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2. State **four** general uses of solar energy. (2mks)

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3. Name **four** tick borne diseases. (2mks)

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4. What is the use of a **strip cup**? ($\frac{1}{2}$ mk)

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5. Give **three** ways used to improve production in indigenous cattle. ($\frac{1}{2}$ mk)

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6. Name a breed of sheep with a lambing percentage of above 125% and whose fleece is inferior due to black fibers. ($\frac{1}{2}$ mk)

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7. State **four** ways of controlling tsetse flies. (2mks)

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8. State **four** factors that are considered when formulating a livestock ration. (2mks)

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9. Differentiate between **mothering ability** and **prolificacy** in livestock breeding. (2mks)
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10. State **two** reasons why it is necessary to place sugar syrup close to a beehive. (1mk)
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11. Give **four** advantages of embryo transplant. (2mks)
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12. Give the appropriate term that refers to each of the following.
(a) Young one of a rabbit. (1/2mk)

(b) Mature male goat (1/2mk)

(c) A young female (1/2mk)

13. (a) Give **two** advantages of concrete blocks over timber as building materials. (1mk)
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(b) State **three** disadvantages of using steel in construction of farm buildings. (1 1/2mk)
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14. State **four** causes of egg eating in a flock of layers. (2mks)
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15. State **four** disadvantages of fold system in poultry rearing. (2mks)
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16. (a) Name **three** ways of caponization in poultry. (1^{1/2}mks)

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(b) Give **four** characteristics of a good vaccine. (2mks)

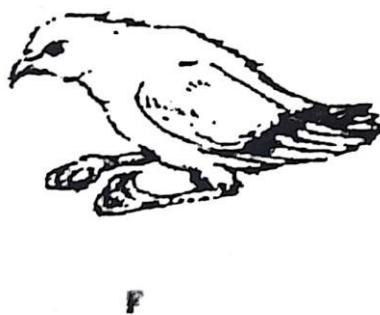
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17. State **four** reasons for carrying out egg curdling. (2mks)

SECTION B (20 MARKS)

Answer all questions in this section in the spaces provided.

- 18 Diagrams F and G illustrates chicks suffering from some essential feed nutrients. Study the diagrams and answer the questions that follow.



F



G

- a. Name the deficient nutrient in F and G. (2mks)

F.....

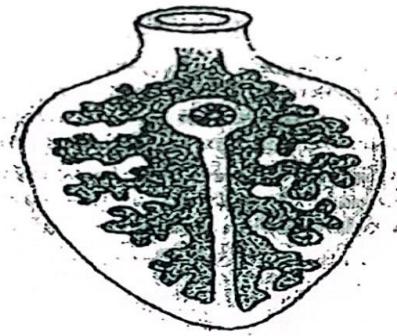
G.....

- b. Outline **one** method in each case used to control the condition in F and G. (2mks)

F
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G
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- 19 Below is an illustration of an internal parasite in livestock.



- a. Identify the parasite. (1mk)

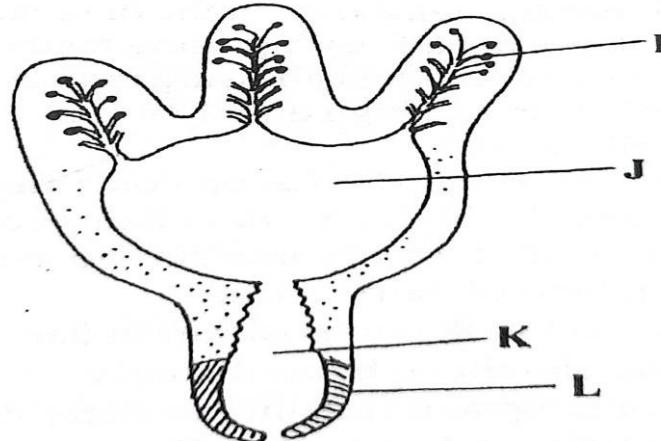
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- b. Name **one** final host for the parasite. (1mk)

c. Name the intermediate host for the parasite. (1mk)

d. State **two** control measures of the parasite. (2mks)

20 The diagram below shows a cross section of a cows' udder.



a. Label the parts I, J, K and L. (2mks)

I.....

J.....

K.....

L.....

b. What is milk letdown. (1mk)

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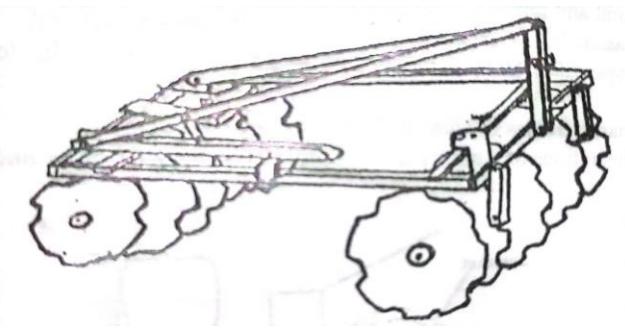
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c. Name two hormones responsible for milk letdown. (2mks)

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21 Below is a diagram of a farm equipment.



- a. Identify the equipment. (1mk)

- b. State **one** function of the toothed notches. (1mk)

- c. State **one** way of increasing the depth of penetration of the equipment. (1mk)

- d. State **Three** maintenance practices carried out on the equipment shown above.

(2mks)

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SECTION C (40 MARKS)

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

22 (a) Describe milk fever diseases under the following sub headings

(i) Animal affected

(1mks)

(ii) Causes of the diseases

(1mks)

(iii) Symptoms of the diseases

(5mks)

(iv) Control and treatment

(3mks)

(b) Outline **five** features of an ideal calf pen.

(5mks)

(c) State **five** care and maintenance practices of a tractor battery.

(5mks)

23 (a) State and explain **five** preservative measures of livestock diseases. (10mks)

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(b) Outline **six** factors considered when choosing poultry system. (6mks)

(c) Name **four** parts of a piggery (pigsty) unit and give the function of each part. (4mks)

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24 (a) Describe the procedure of training a calf to take milk from a bucket. (5mks)

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(b) State **eight** advantages of battery cage system. (8mks)

(c) Outline **seven** factors considered when selecting a heifer for breeding. (7mks)

SERIES 7**PAPER 1 SECTION A: (30 MARKS)**

1. What is the meaning of seed dressing? (1mks)

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2. Give four advantages of row planting. (2mks)

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3. List four factors to be considered when choosing site for tomato nursery. (2mks)

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4. State three reasons of treating water in the farm. (1 ½ mks)

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5. Give three ways through which HIV/AIDS affect agriculture. (1 ½ mks)

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6. State four advantages of overhead irrigation. (2mks)

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7. List three methods of farming. (3 ½ marks)

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8. A farmer in Premier was advised to apply 150kg C.A.N/ha while top dressing the maize crop. CAN, contains 21% N. Calculate the amount of nitrogen applied per ha. (2mks)

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9. Name four farm records that should be kept by a poultry farmer. (2marks)

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10. Give three importance of tissue culture in crop production. (2mks)
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11. Define the following terms as used in economics .
(a) National income (1mark)
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- (b) Per capita income (1mark)
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12. Highlight four problems facing the marketing of cabbages. (2mks)
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13. State four variable costs in maize production. (2mks)
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14. State four constituents of soil. (2mks)
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15. State **four** symptoms of viral diseases in crops. (2marks)
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16. State five factors which influence the spacing of crops. (2mks)
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SECTION B (20 MKS)

Answer ALL Questions in this section

17. Below are illustrations of common weeds. Study them and answer the questions that follow



A

- (a) Identify the weeds

A.....

B.....

- (b) State the harmful effects of the weed B above

(2mks)

- (c) Give **four** advantages of leasehold tenure systems

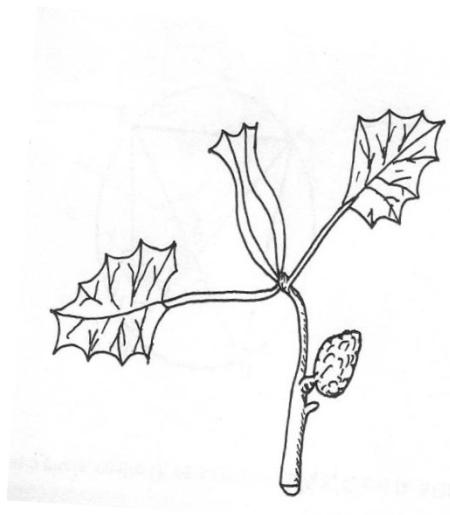
(1mk)

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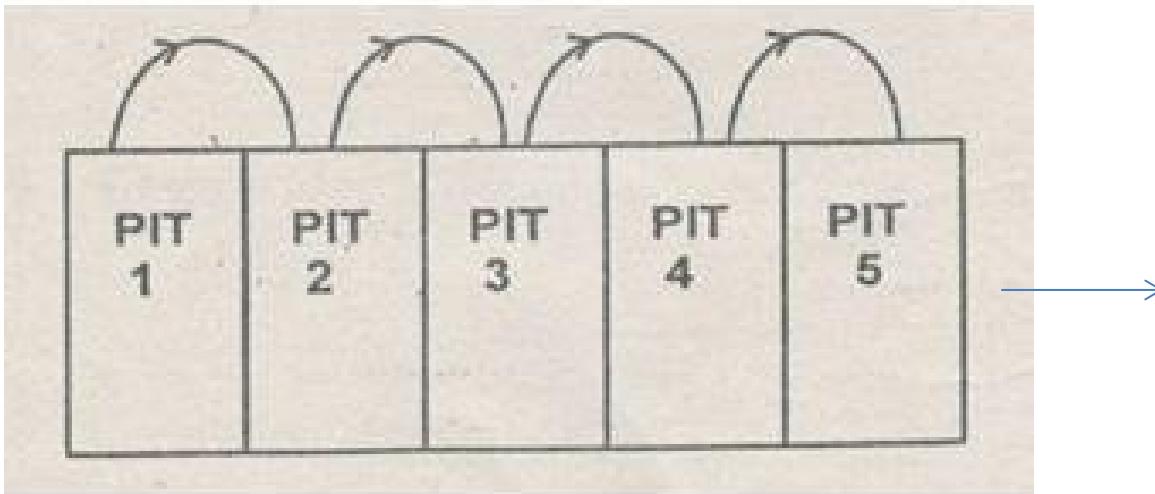
18. Describe the procedure which should be followed when spraying a crop of onions using a fungicide in powder form, water and a knapsack sprayer (5mks)

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19. The following diagram shows a method of compost preparation.



B



(a) Identify the method

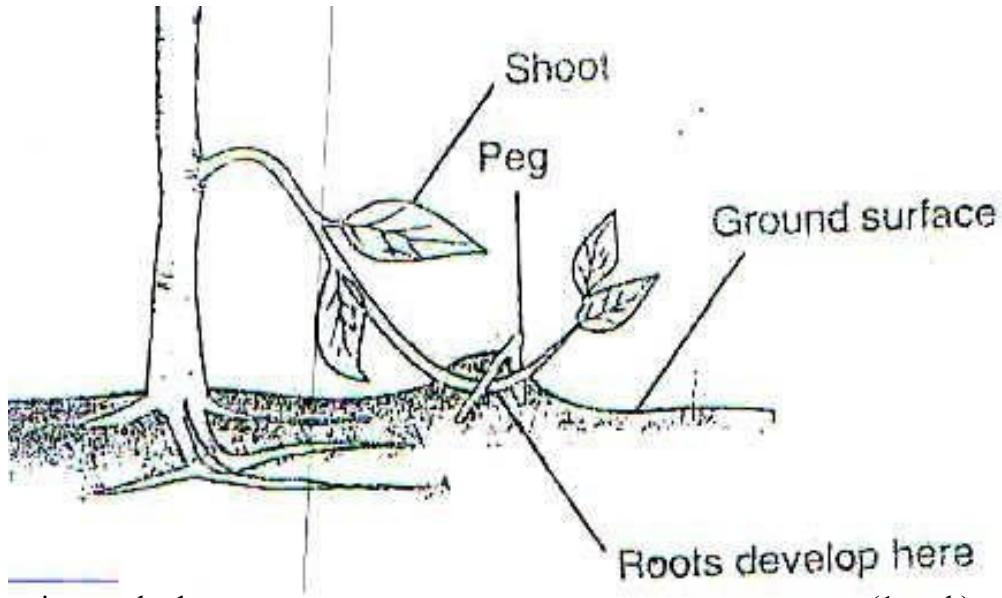
(1 mk)

(b) Give two factors considered when siting the compost pit

(2 mks)

(c) State two factors that would determine time the manure would be ready for use in the field
(2mks)

20. Study the diagram below of crop propagation and answer the following questions



a) Identify the propagation method

(1mark)

b) State two factors that encourage root formation in the above method of propagation (2marks)

c). Name two crops that can be propagated using the above method (2marks)

SECTION C (40MKS)

Answer any two Questions in this section

21. (a) Describe harvesting of pyrethrum under the following sub-headings
(i) Procedure (4mks)
(ii) Precautions (6mks)
(b) Describe the safety measures observed when handling farm herbicides (10mks)
22. (a) Describe the production of carrot (*Daucus carota*) under the following sub-headings
(i) Land preparation (4mks)
(ii) field management practices (4mks)
(b) Explain six cultural methods of soil and water conservation (12 marks)
24. (a) Explain the benefits of land consolidation. (6marks)
b) Briefly explain **six** factors influencing mass wasting. (6marks)
c) Explain **four** ways of improving labour productivity (8marks)

PAPER 2

SECTION A (30MKS)

Answer all the questions in this section in the spaces provided

1. Name **three** poultry diseases that are controlled by vaccination. (1½mks)

2. Name **four** stages ticks go through in their life-cycle (2mks)

3. Outline **four** functions of proteins in the body of an animal. (2mks)

4. Name **four** materials a farmer requires in order to construct a barbed wire fence .
(2marks)

5. Name **four** components of milk (2marks)

6. State the colour difference between the califonia and black earlops rabbits breeds.
(1marks)

7. Name **one goat** breed that is reared for :-

i) meat ($\frac{1}{2}$ marks)

ii) mohair ($\frac{1}{2}$ marks)

8. List **two** sources of farm power which are environmentally friendly (1mk)

9. what do we mean by the term notifiable diseases as used in livestock health 1mk

10. Give the mineral whose deficiency causes the following disorders in livestock.

a. Anaemia (1/2mk)

b. Parakeratosis $\frac{1}{2}$ mk

11. Name **four** components of power transmission system of a tractor(2mks)

12. Distinguish between raddling and sire sine harness . (1mk)

13. State **four** advantages of treating building materials (2mks)

14. If records show that a gilt was served on 27th September 2020. Which date did it give birth. (½mk)

15. Name the part of the digestive system of poultry where insoluble grit is found.
(1/2mk) -----

16. state **four** importance of creep feeding(2mks)

17. State **four** construction features necessary in a fish pond (2mk)

18. Give **three** ways of stimulating milk let down in a dairy cow. (1½mks)

19. State **three** field conditions under which a disc plough should be used instead of a mouldboard plough. (1½mks).

20. give **four** reasons why farmers castrate bulls. (2mks)

21. Distinguish between selection and breeding as used in livestock production (1mark)

SECTION B (20mks)

Answer all the questions in the section in the spaces provided

22.Observe the tools A, B and C illustrated below then answer the questions that follow.



A



B



C

a) Name tool (3 mks)

A-----

B-----

C-----

b) state the correct use of each tool. (3mks)

A-----

B-----

C-----

c)State **two** maintenance practices that should be carried out to ensure that tool C is in a good working condition. (2mks)

23. The picture below shows a poultry rearing system .



a)Identify the rearing system .(1mk)

b)From the picture , state two ways in which the system can lead to low eggs production. (2marks)

c)State **two** ways in which the rearing system can lead to lose of birds . (2marks)

24. Observe the machinery illustrated below then answer the questions that follow.



a) Name the machinery (1 mk)

b) state the function of the machinery (1mk)

c) Give **two** maintenance practices that should be carried out to the machinery you have identified above (2mks)

25. A ration containing 20% DCP for growing chicks is to be obtained by mixing ground maize containing 10% DCP and fishmeal containing 50% DCP. Calculate the amount of each feedstuff in kilograms required to prepare 200kg of the feed. (3mks)

SECTION C (40mks)

This section only consists of **three** questions . answer any **two** questions from this section

26. a) Describe African swine fever disease under the following headlines

i) Animals affected (1mk)

ii) Causal organism (1mk)

iii) Symptoms (4mks)

iv) Control measures (4mks)

b) Discuss the process of digestion in ruminant animals. (10mks)

27 a) Explain **SIX** mechanical methods of controlling ticks. (12mks)

.b) State and explain **four** ways through which power transmitted from the engine is made available for use. (8mks)

P.T.O

28. a) describe **five** essentials of clean milk production. (10mks)

b) explain five advantages of embryo transplant(10mks)

SERIES 8
PAPER 1

SECTION A (30marks).

Answer all Questions in this section.

1. a) State four characteristics of extensive farming system. (2mks)

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- b) List two disadvantages of small scale farming. (2mks)

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2. Name two ways in which predators affect agricultural production. (1mk)

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3. List down four factors that influence formation of soil. (2mks)

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4. State two farming practices that bring about minimum tillage. (1mk)

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5. Name the function of each of the following chemicals in water treatment.

- a) Alum (1mk)

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- b) Soda ash (1mk)

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6. State two importance of organic matter in the soil. (1mk)

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7. State three reasons why green manure is not commonly used in the farms. (1 ½ mks)

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8. State four uses of farm records. (2mks)

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9. List three importance of phosphorous in crop growth. (1 ½ mks)

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10. Name four significance of using seeds as planting materials. (2mks)

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11. List two importance of tissue culture in propagating crops. (1mk)

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12. State the difference between the following terms. (2mks)

a) Rogueing

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b) Gapping

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13. State four effects of applying too much nitrogenous fertilizer to crops. (2mks)

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14. Name four disadvantages of communal land tenure system. (2mks)

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15. State four precautions farmers should observe when using agro-chemical for their safety and for environmental safety. (2mks)

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16. State three harmful effects of pests on crops. (1 ½ mks)

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17. State three qualities of a good manager in a farm setting. (1 ½ mks)

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18. State two factors that influence the demand of a commodity. (1mk)

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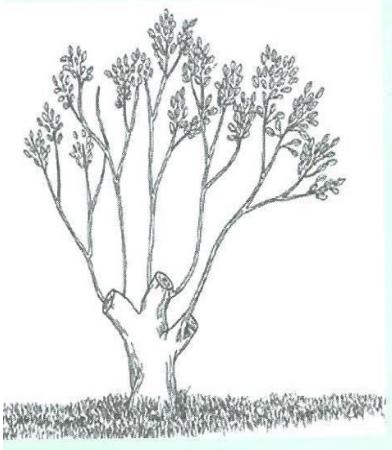
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SECTION B (20 MARKS)**Answer all questions in this section.**

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

**A****B**

- a) Identify the three harvesting methods shown in the diagrams above.

(2mks)

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- b) Name four sites for agroforestry trees in the farm.

(2mks)

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20. The document below was obtained from one of the books of accounts in Kimko's farm. Study the document and answer the questions that follow.

DAIRY CATTLE							
DR				CR			
Date	Particulars	Folio	Amount Sh cts.	Date 2003	Particulars	Folio	Amount Sh cts.
Feb 20 th	Bought 2 bags of dairy meal	1	18,000.00	Feb 10 th	Sold 2 heifers	1	12,000.00
Feb 30 th							

- a) Identify the book from which the above document was obtained.

(1mk)

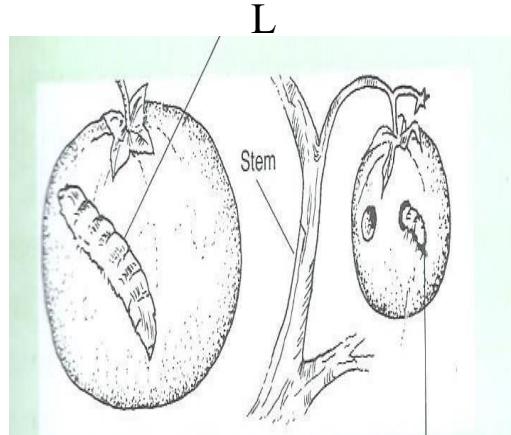
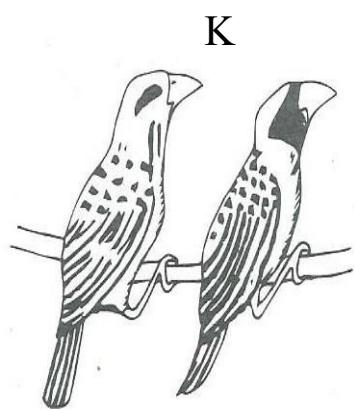
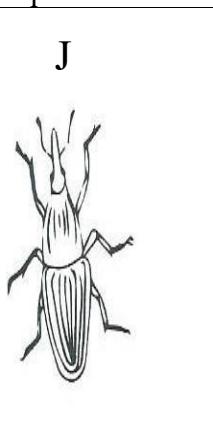
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.....

- b) State four importance of keeping proper farm account records.

(2mks)

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21. The diagram below shows pests that affect crops when in the field. Study the diagrams and answer the questions that follow.



a) Identify the pest J, K and L.

(3mks)

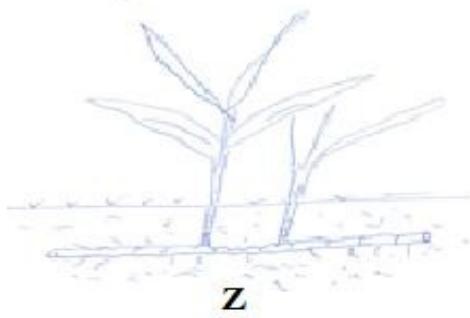
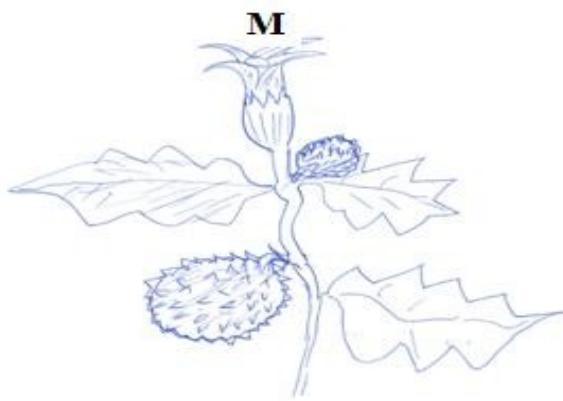
b) State two ways of controlling the pest labeled L above.

(2mks)

c) State one crop attacked by the pest labeled J and K above.

(2mks)

22. The Following weeds were found growing on a maize farm by a form four student. Study the weeds and answer the questions that follow.



- a) Name the weeds labeled X, Y and Z above. (3mks)

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- b) State one reason that makes each of the following weeds difficult to control. (2mks)

(i) X

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(ii) Z

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.....

- c) State one reason why the weed labeled M should not be allowed to grow in the farm. (1mk)

SECTION C (40 marks)

Answer only two questions in this section

23. a) Explain five cultural methods a farmer can use to control weeds. (10mks)
b) State and explain five factors considered when establishing nursery bed site. (10mks)
24. a) Describe five ways in which a farmer may adjust to uncertainty and risks in the farm. (10mks)
b) Explain five physical methods used to control crop pests in a crop land. (10mks)
25. a) State five types of information contained in a title deed. (5mks)
b) State five methods used to control soil and water pollution. (5mks)
c) State and explain five ways an entrepreneur can use to improve labour productivity in a farm. (10mks)

PAPER 2

SECTION A 30 MARKS

ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

1. Name the tool used for each of the following operations;

(a) cutting wool from sheep(1/2marks)

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(b)castrating piglets (1/2 marks)

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(c)cutting threads of metallic pipes (1/2 marks)

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(c)placing mortar between construction stones (1/2 marks)

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2.Distinguish the following terms as used in cattle breeds;

(a) bullock and steer (1 mark)

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(b)Heifer and a calf (1 mark)

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3. Give four physiological body processes used as indicators of ill-health in animals. (2 marks)

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4. State **four** signs of external parasites infestation in livestock. (2 marks)

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5. List **four** non-chemical methods of controlling ticks in cattle. (2 marks)

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6. State **three** events that occur in the isthmus during egg formation. (1 $\frac{1}{2}$ marks)

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7. State **three** disadvantages of embryo transplant. (1½marks)

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8. Give **four** reasons for dehorning in livestock production. (2marks)

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9. State **four** signs of farrowing. (2 marks)

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10. Give **four** reasons why bees need to be fed in an apiary. (2 marks)

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11. State **four** importance of fish farming. (2 marks)

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12. Give **four** uses of farm buildings. (2 marks)

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13. List **four** predisposing factors to pneumonia in livestock. (2 marks)

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14. State **four** qualities of good eggs for incubation. (2 marks)

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15. State **three** advantages of natural calf rearing. (1¹/₂ mark)

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16. Give **three** limitations of using hydroelectric power in the farm. (1¹/₂ mark)

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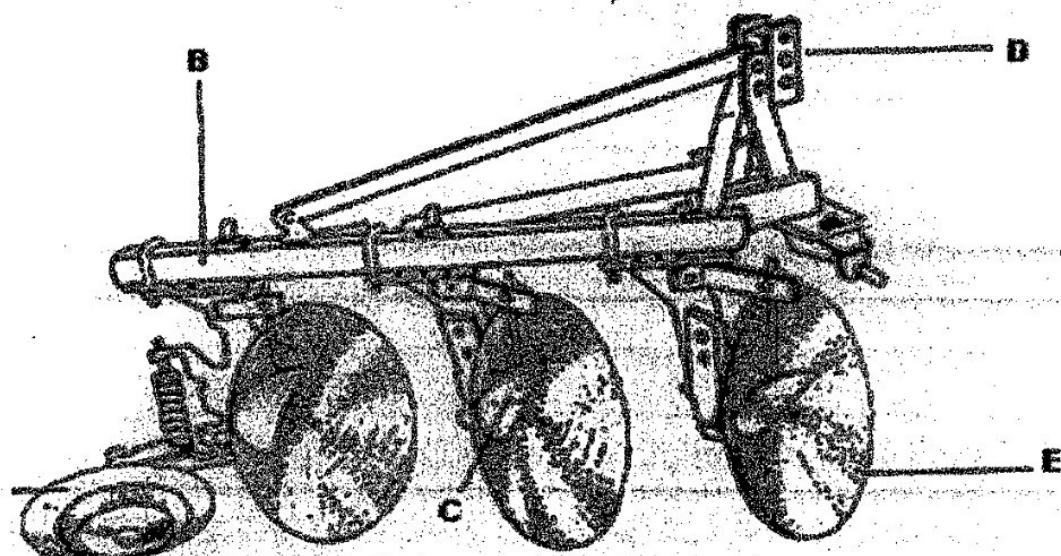
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SECTION B 20 MARKS

ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

17. Study the diagram below and answer the questions that follow. (disc plough)



(a) Identify the implement illustrated above. (1 mark)

(b) Name the parts labelled B and C (2 marks)

B.....

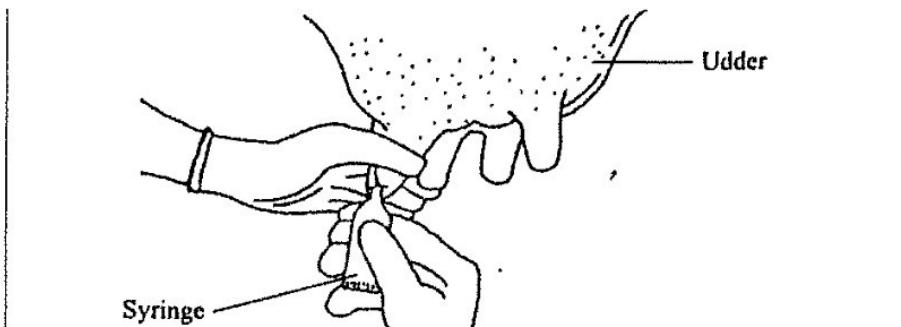
C.....

(c) State the function of the part labelled D and E. (2 marks)

D.....

E.....

18. The diagram below shows a practice carried out in livestock production. Use it to answer the questions that follow.



(a) Identify the practice illustrated above. (1 mark)

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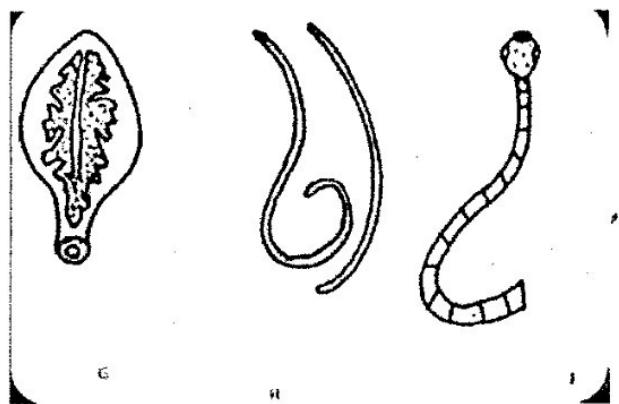
(b) At what stage of gestation period is the practice carried out. (1 mark)

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(c) List **three** milking techniques which stimulate milk let down. (3 marks)

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



(a) Identify parasites G and H. (2 marks)

G.....

H.....

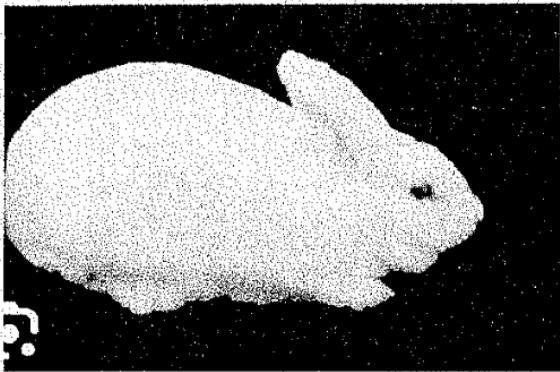
(b) Name the stage of parasite J that is ineffective to man. (1 mark)

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(c) Give two basic rules for successful control of the parasites illustrated above. (2 marks)

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20. The pictures below illustrates two rabbit breeds. Study them carefully and answer the questions that follow.



A



B

(a) Identify each breed of rabbit illustrated above. (2 marks)

A.....

B.....

(b) Give **one** advantage of housing the rabbits on the floor illustrated above. (1 mark)

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(b) Give **two** characteristics of feeds in photograph B. (2 marks)

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SECTION C 40 MARKS

ANSWER ONLY TWO QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

21. (a) Discuss foot and mouth disease under the following headings

 - (i) Causal organism. (1 mark)
 - (ii) livestock species affected. (2 marks)
 - (iii) Symptoms of attack. (4marks)
 - (iv) Control measures. (3marks)

(b) Describe ten characteristics of a good layer. (10marks)

22(a) (i) Explain **seven** factors that affect milk composition in dairy farming. (7 marks)

(ii) Give **three** ways in which infectious diseases can spread from one livestock to another. (3 marks)

(b) Describe the use of various hand tools required for the construction of a wooden calf pen. (10 marks)

23.(a) List **six** advantages of farm mechanization. (6 marks)

(b) Explain the differences between a two stroke and a four stroke cycle engine. (6 marks)

(c) Outline the daily maintenance practices that should be carried out on a farm tractor. (8 marks)

**SERIES 9
PAPER 1**

SECTION A (30 MARKS)

Answer all the questions in the spaces provided

1. Give **two** sub branches of Arable farming (2mks)

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.....

2. State **four** biotic factors that influence agriculture negatively (2mks)

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3. Distinguish between grading and standardization in Agricultural marketing (2mks)

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4. Give **four** benefits of a title deed to a farmer (2mks)

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5. State **four** control measures of riverbank erosion (2mks)

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.....

6. Name any **four** methods of farming (2mks)

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7. Outline **two** conditions that should be met by a good rootstock (1mk)

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8. Differentiate between seed dressing and seed inoculation as used in agriculture production (2mks)

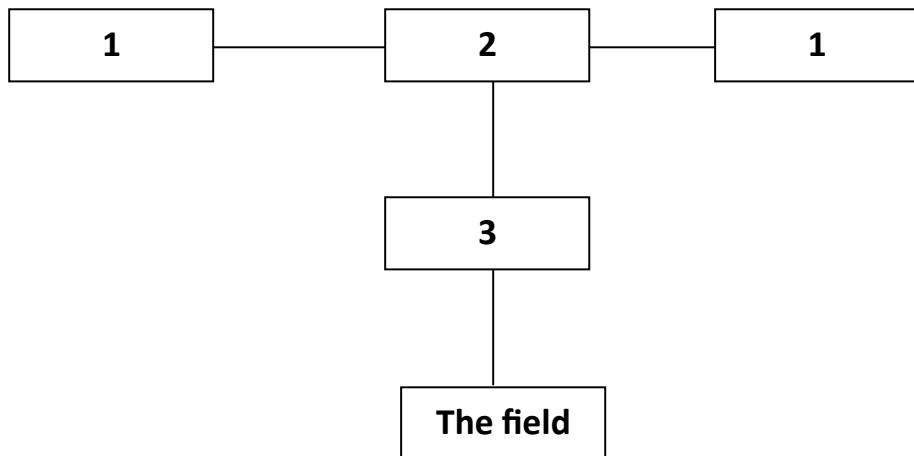
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9. List any **four** agroforestry trees grown in the farm (2mks)
-
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.....
.....
10. a) State the effects of the following weeds to the livestock produce (1mk)
- i) Mexican Merigold
.....
.....
- ii) Thorn apple
.....
.....
- b) Name the parts harvested in each of the following crops (1mk)
- i) Onions
.....
.....
- ii) Coffee
.....
.....
11. State **four** farming practices that encourage soil erosion (2mks)
-
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.....
12. Name **three** varieties of the carrots (1 1/2mks)
-
.....
.....
13. Name **four** crops where training is carried out (2mks)
-
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.....
14. Name **three** sources of nitrogen for plants (1 $\frac{1}{2}$ mks)
-
.....
.....
15. a) Name **two** types of inventory records kept on the farm (2mks)
-
.....
- b) State **two** uses of inventory records on the farm (1mk)
-
.....
16. State **two** conditions that must exist for a market to be purely competitive (1mk)
-
.....
17. Give **two** precautions that should be observed when storing Nitrogenous fertilizer (1mk)
-
.....

SECTION B (20 MARKS)

Answer all questions in this section

18. Illustrated below is a method of turning compost. Study the method and answer the questions that follow



- a) Identify the method (1mk)

 b) Using arrows in the diagram show how the turning is done before the manure can be taken to the field (2mks)

 c) After how long should the compost be ready for use (1mk)

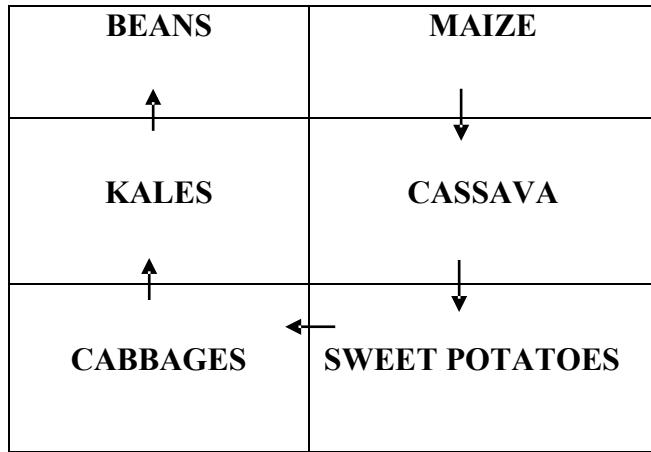
 d) Name any other type of organic manure apart from the one named above (1mk)

19. An agriculture student was advised to apply a complete fertilizer 40: 30:10 in a 20m by 10m plot and at the rate of 400kg per hectare
- a) What do the figures 40 and 10 stand for? (1mk)

 b) Calculate the percentage of P_2O_5 (phosphorous pentoxide) in the complete Fertilizer (2mks)

- c) Calculate the amount of fertilizer the student would require for the plot (2mks)

20. The illustration below shows a cropping programme.



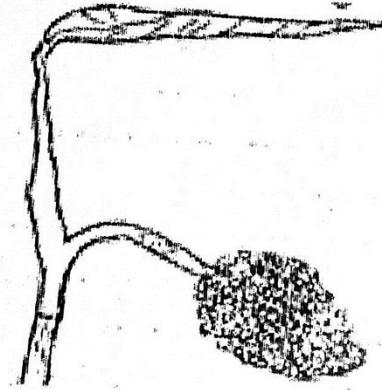
- i. Identify the cropping programme (1mk)

.....
ii. Giving a reason , identify one mistake the farmer made when designing the above programme (2mks)

.....
.....
iii) State two advantages of this programme (2mks)

.....
.....

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



- a) Identify the variety of sorghum in the diagram (1mk)

.....

- b) Name two types of pests whose damage can be controlled by planting the above named variety (2mks)

.....

- c) State other two measures used to control the pest named in (b) above (2mks)

.....

.....

SECTION C (40 MARKS)

22. a) Discuss the importance of irrigation in farming (4mks)

- b) Describe the management practices that should be carried out on a vegetable nursery after sowing seeds until the seedlings are ready for transplanting (8mks)

- c) Explain eight factors that contribute to the competitive ability of weeds (8mks)

23. a) Describe maize production under the following sub headings

- i) Land preparation (3mks)

- ii) Field practices (5mks)

- iii) Post harvest practices (5mks)

- b) Describe the cultural methods of controlling crop diseases (7mks)

24. Study the following information which was extracted from Mr Kiko's farm records on 31/12/2023 and answer the question that follow

Loans payable to bank	Ksh. 300,000
Five Milking cows	Ksh. 250,000
400 layers	Ksh. 80,000
20 goats	Ksh. 30,000
Debts payable to co-operative	Ksh. 20,000
Buildings & structures	Ksh. 600,000

Bonus payable to workers	Ksh. 19,000
Cattle feed in store	Ksh. 10,000
Animal drugs in store	Ksh. 4,000
Debts receivable	Ksh. 18,000
Breakages to repair	Ksh. 30,000
Cash at hand	Ksh. 20,000
Cash in bank	Ksh. 30,000
Spray equipment	Ksh. 12,000

- a) Prepare a balance sheet of Mr. Kiko's farm using the information above (10mks)
- b) Describe five effects of crop pests (5mks)
- c) Give five reasons why land consolidation should be encouraged in Kenya (5mks)

PAPER 2

SECTION A (30 MARKS)

Answer all the questions in the spaces provided

1. Name **four** zoonotic diseases in livestock (2mks)

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2. State **four** reasons for maintaining farm tools (2mks)

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3. State **four** advantages of artificial rearing in calves (2mks)

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4. State **four** reasons for steaming up in dairy cattle (2mks)

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5. Fill in the table below giving the terms used in reference to animals (2mks)

Young one of;	Sheep	Rabbit
Mature female of;	Cattle	Goat

6. State **four** effects of livestock parasite (2mks)

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.....

7. Give **four** signs of ill health observed in the animals skin (2mks)

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8. State **four** characteristics of a broody hen (2mks)

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9. Identify the nutrient that is deficient in the following disorder (2mks)

i) Curled toe paralysis in chicks

.....
.....

ii) Milk fever

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iii) Piglet anaemia

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.....

iv) Sway back in lambs

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.....

10. State **four** signs of farrowing (2mks)

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11. Give **four** components of power transmission system in a tractor (2mks)

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12. State **four** factors that favour fish farming (2mks)

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13. State **four** factors that stimulates milk let down (2mks)

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14. State **four** symptoms of Gumboro disease in poultry (2mks)

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15. If a cow is detected to have signs of heat at 6am on 12th May 2024, when should it be served? (1mk)

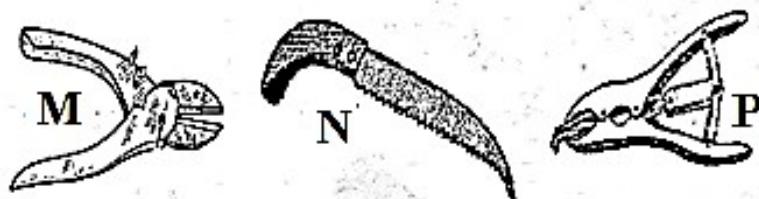
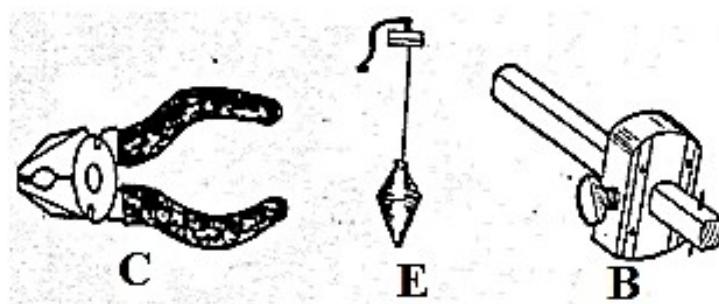
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16. Give **two** categories of vitamins (1mk)

SECTION B (20 MARKS)

Answer all questions in this section in the spaces provided

17. Study the farm tools below and answer the questions that follow



- a) Identify the farm tools C,E and B (3mks)

C

E.....

B.....

- b) State the functional difference between M and N (1mk)

.....

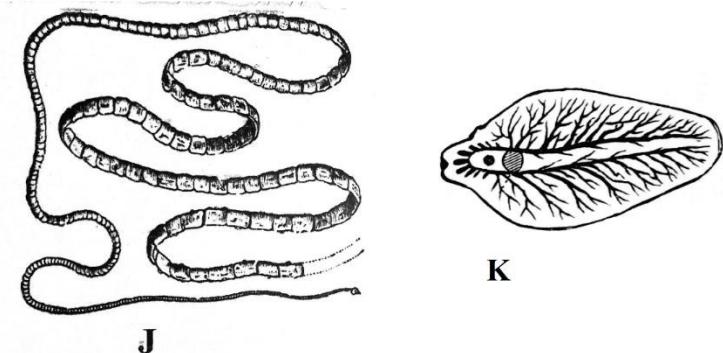
.....

- c)State two maintenance practices carried out on tool labelled P (1mk)

.....

.....

18. The diagram J and K below shows livestock parasites



- a) Identify parasite labeled J and K (2mks)

J.....

K.....

- b) Name the organ in which each parasite is commonly found (1mk)

Parasite J

.....

Parasite K

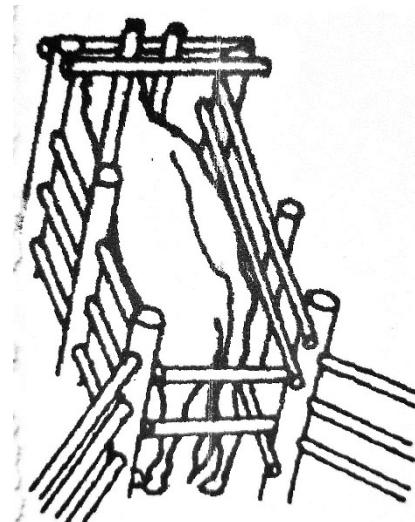
- c) State **two** control measures of the parasite labeled K in livestock production

(2mks)

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19. The illustration below shows an animal handling structure. Study it and answer the following questions



- a) Identify the structure illustrated (1mk)

.....

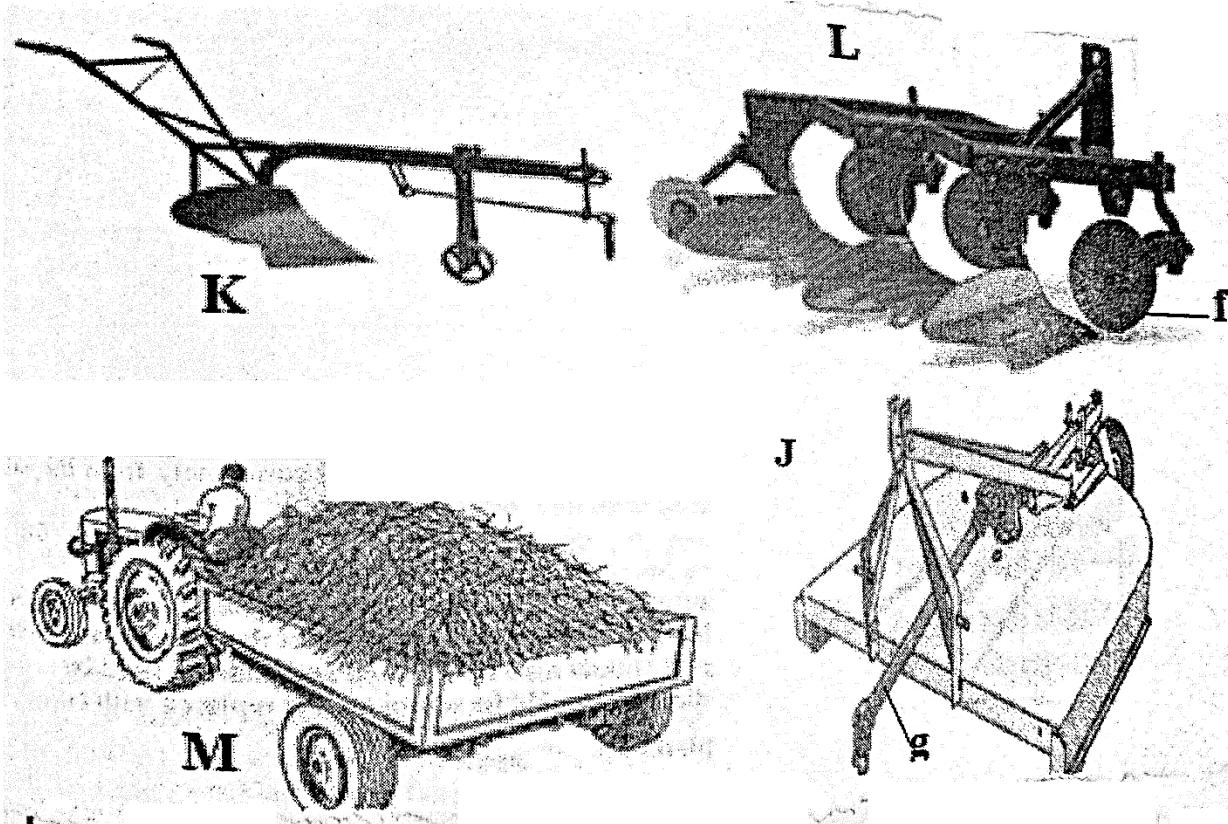
- b) State **two** operations given to animals when confined in the above structure

(2mks)

- c) Name two other related structures that are used in parasite and disease control

(2mks)

20. Below are farm implements. Study them and answer the questions that follow



- a) Identify the implements K and M (2mks)

K.....

M.....

- b) State the function of implement J and L (2mks)

J.....

L.....

- c) State two maintenance practices carried out on part labeled F (1mk)

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.....

SECTION C (40 MARKS)

Answer any two questions in this section

21. a) Describe coccidiosis under the following sub headings
i) Causal organism (1mks)
ii) Animals attacked (2mks)
iii) Symptoms (3mks)
iv) Control (4mks)
- b) Describe **five** essentials of clean milk production (5mks)
- c) State **five** advantages of using artificial insemination (5mks)
22. a) Describe the strokes in a four stroke cycle petrol engine (10mks)
- b) State the differences between ruminants and non-ruminants (5mks)
- c) State **five** characteristics of good dairy cattle breed (5mks)
23. a) Describe management of layers from point of lay to culling (10mks)
- b) Explain **six** factors to consider when siting farm structures (6mks)
- c) State **four** factors that determine quality of honey (4mks)

SECTION A: (30 MARKS)

Answer all questions.

1. Outline **four** activities that may be carried in organic farming. (2 marks)

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2. State any **four** information contained in a land title deed. (2 marks)

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3. State **four** factors that influence solifluction. (2 marks)

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4. State **four** examples of variable input in production of sorghum. (2 marks)

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5. Give **four** characteristics of a good grain store. (2 marks)

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

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7. State **four** sites recommended for Agro-forestry. (2 marks)

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.....

8. State **four** factors that affect selectivity of herbicides. (2 marks)

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9. Give **four** forms in which pesticides are available. (2 marks)

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10. Give **four** environmental conditions that may lead to low crop yields. (2 marks)

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11. List down **four** disadvantages of plastic pipes. (2 marks)

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12. Give **four** farming practices which may lead to soil erosion. (2 marks)

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13. Define the term ‘changing of cycle’ as used in coffee production. (2 marks)

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14. Differentiate between seed dressing and seed inoculation. (2 marks)

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15. Give **four** reasons for conserving forage. (2 marks)

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SECTION B: (20 MARKS)
Answer all questions.

16. Below is an illustration of a maize cob attacked by smut diseases. Study it carefully and answer the question that follow.



- a) Beside what is visible on the maize cob. State two other symptoms of the disease.
(2 marks)

.....
.....

- b) State **three** control measures of the above disease. (3 marks)

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17. Below is a diagram of a crop pest.



a) Identify the bird. (1 mark)

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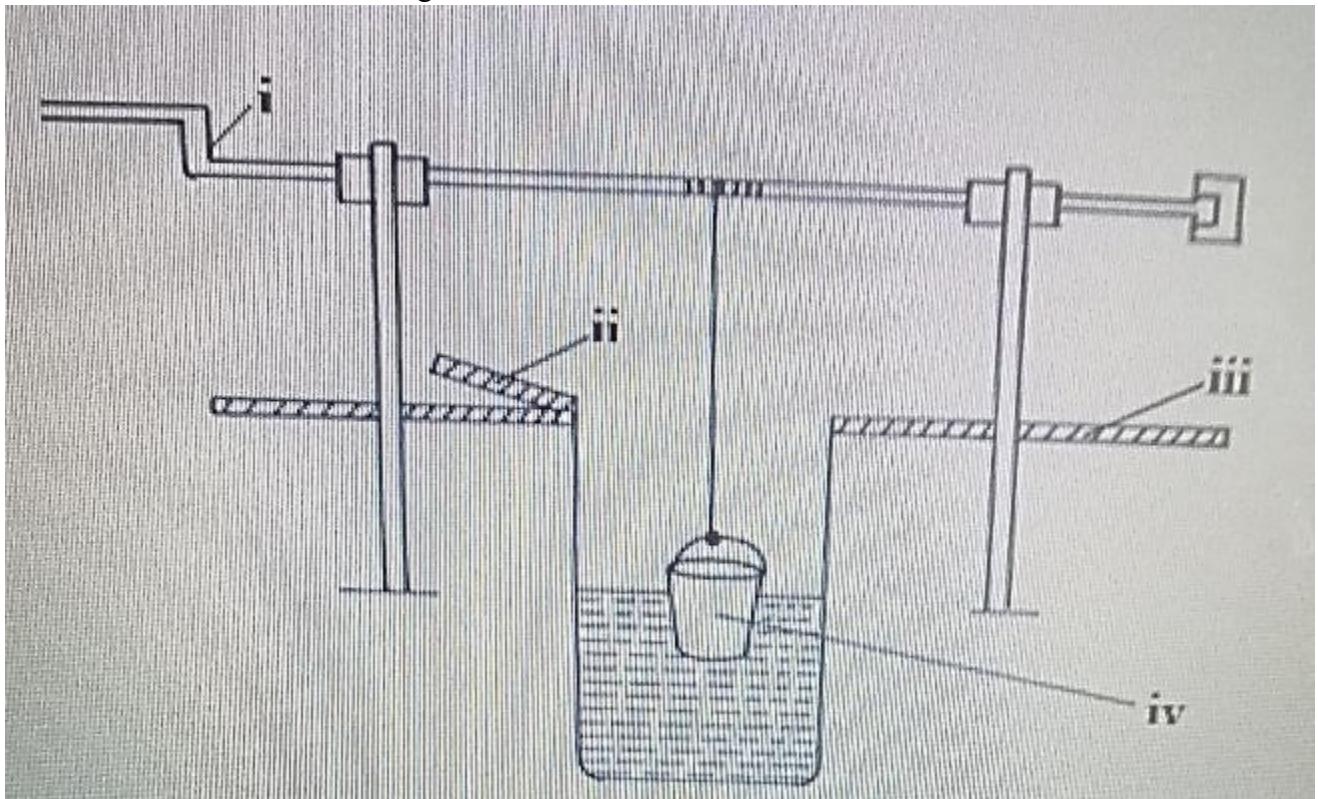
b) State **two** ways by which the bird causes loss in crops. (2 marks)

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.....
.....

c) State **two** methods which are used to control the pests. (2 marks)

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.....

18. Below is an illustration of underground water source.



a) Identify the method above. (1 mark)

b) Identify the parts labelled. (4 marks)

(i)

(ii)

(iii)

(iv)

19. The diagram below represents two weeds. Use them to answer the questions that follow.



A



B

a) Identify the weeds marked A and B in the diagrams above. (2 marks)

A
B

b) State one harmful effect of weed B. (1 mark)
.....

c) State problems associated with the weeds above. (2 marks)
.....
.....

A
.....

B
.....

SECTION C: (40 MARKS)
Answer any two questions.

20. (a) Explain four nursery management practices. (8 marks)



(b) The inventory of Jashi Farm as at 31st March, 2011 was as follows.

	Kshs
Cash in hand	7,000
Layers	25,000
Dairy cattle	130,000
Cassava in store	5,000
Calves	19,000
Buildings	80,000
Land	180,000
Machines	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 sale on credit	15,000
Vegetables sale on credit	5,000
Farm input purchased on credit	20,000
Wages payable	6,200
Taxes payable	800
Interest payable	2,500

Prepare a balance sheet.

(12 marks)



21. (a)(i) Give **two** types of fertilizer in accordance to the nutrient contained. (2 marks)

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(ii) Name and explain methods of fertilizer application. (8 marks)

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(b) Describe **five** physical methods of soil erosion control. (10 marks)

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22. Explain any ten methods of controlling crop pests. (20 marks)

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SECTION A: (30 MARKS)***Answer All questions in this section.***

1. Give the characteristics of dromedary camel that enables them to survive in arid and semi-arid areas. (2 marks)

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.....

2. State **one**function of each of the following farm tools; (2 marks)

a) Center punch

b) Stir-up pump

c) Garden fork

d) Cold chisel

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3. Name **four**stomach chambers of a ruminant. (2 marks)

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4. Outline **four**possible behaviours of chicks in a brooder when the temperatures are high. (2 marks)

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5. Give **four**structural requirements for pig houses. (2 marks)

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6. Give four calving complication on cows. (2 marks)

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7. State four symptoms of coccidiosis which is observed in poultry. (2 marks)

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.....

8. Give the role of the following hormones in cattle. (2 marks)

(i) Prolactin

.....

(ii) Oxykolin

.....

9. What are the secondary host of the following livestock parasites? (2 marks)

(i) Taenia solium

.....

(ii) Liverfluke

.....

10. Give four major parts of combustion engine in a tractor. (2 marks)

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11. Mention four advantages of embryo transplant. (2 marks)

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12. Outline four importance of lubrication systems in a tractor. (2 marks)

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13. State four qualities of colostrum which makes it suitable for feeding newly born calves. (2 marks)

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14. State four factors that would determine the use of a jembe instead of a disc plough in primary cultivation. (2 marks)

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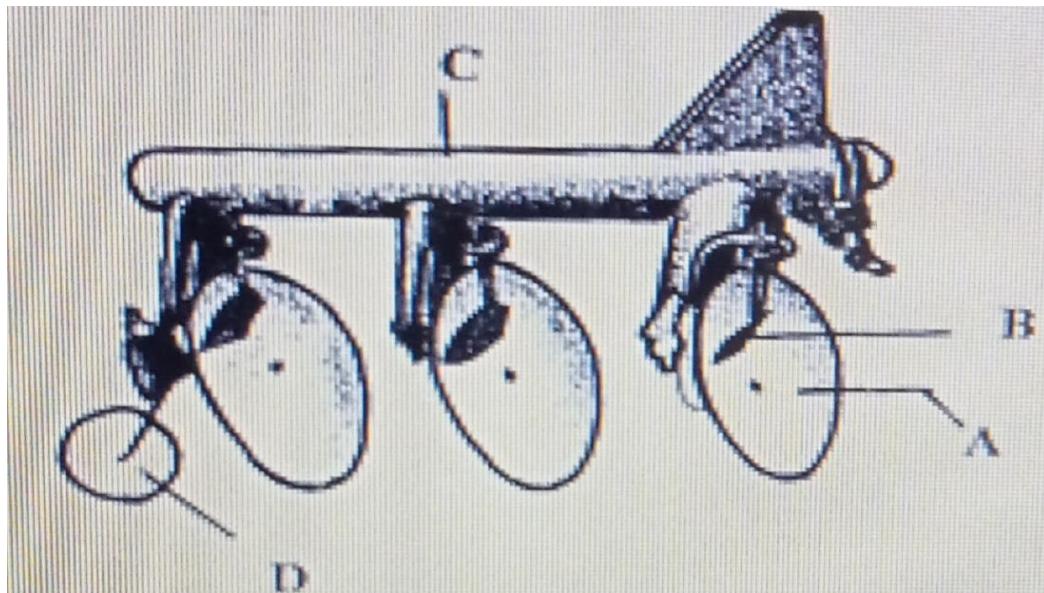
15. Give four factors that may influence the pulse rate of a sheep apart from a disease. (2 marks)

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.....



SECTION B: (20 MARKS)
Answer All questions in this section.

16. The diagram below shows a farm implement. Study it and answer the questions that follow.



a) Name the parts labelled A,B,C. (3 marks)

A

B

C

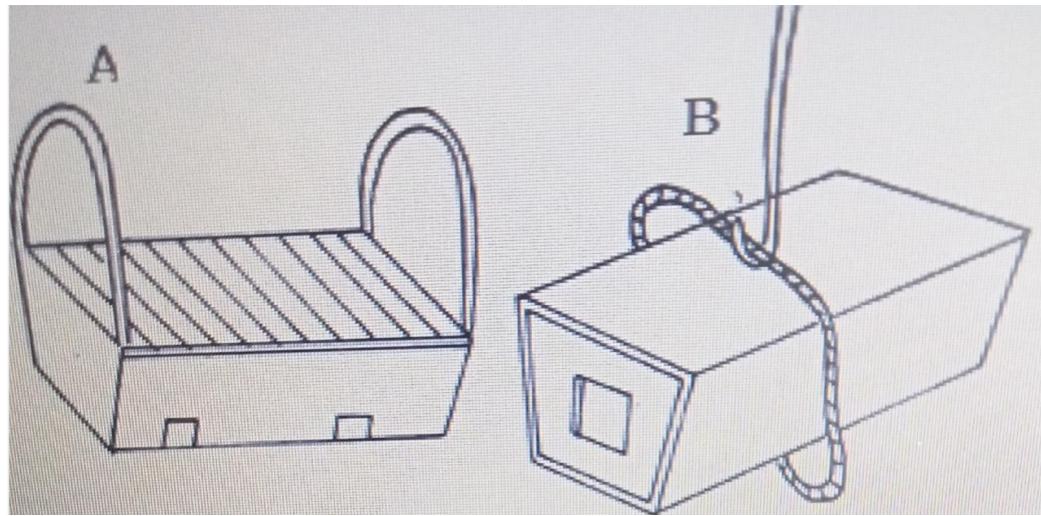
b) What is the function of the part labelled D. (1 mark)

..... .

c) State two maintenances on the implement. (1 mark)

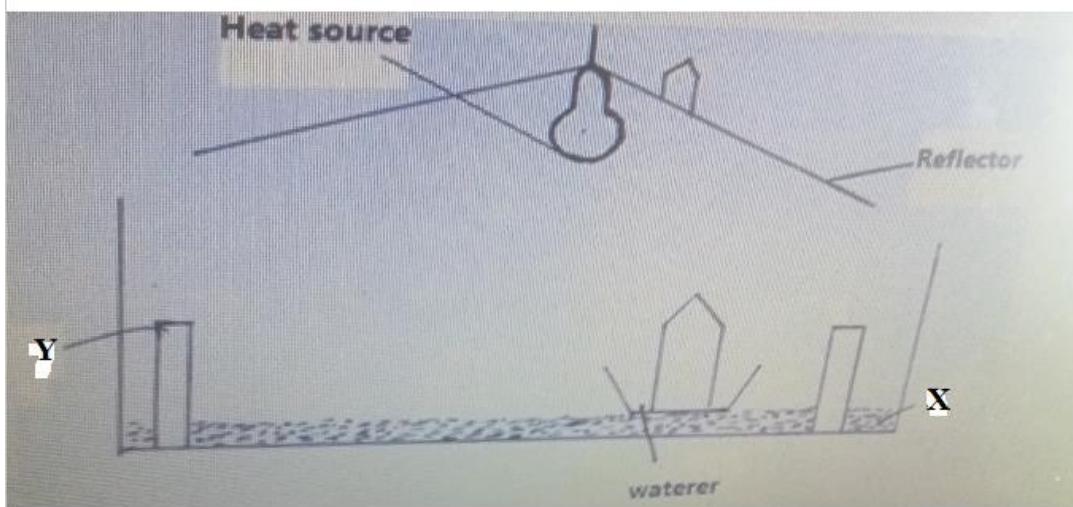
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17. The diagram labelled A and B below shows two types of beehives. Study them carefully and answer the questions that follow.



- a) Identify the types of bee hives A and B. (2 marks)
- A
B
- b) State two advantages of A over B. (2 marks)
-
.....
- c) Give one maintenance practice carried out on hive A. (1 marks)
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18. The diagram below represents a section through which an artificial brooder.



- a) Give two uses of the part labelled X. (2 marks)

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.....

- b) Give one suitable material used for part labelled. (1 mark)

.....

- c) Give the use of part labelled Y. (1 mark)

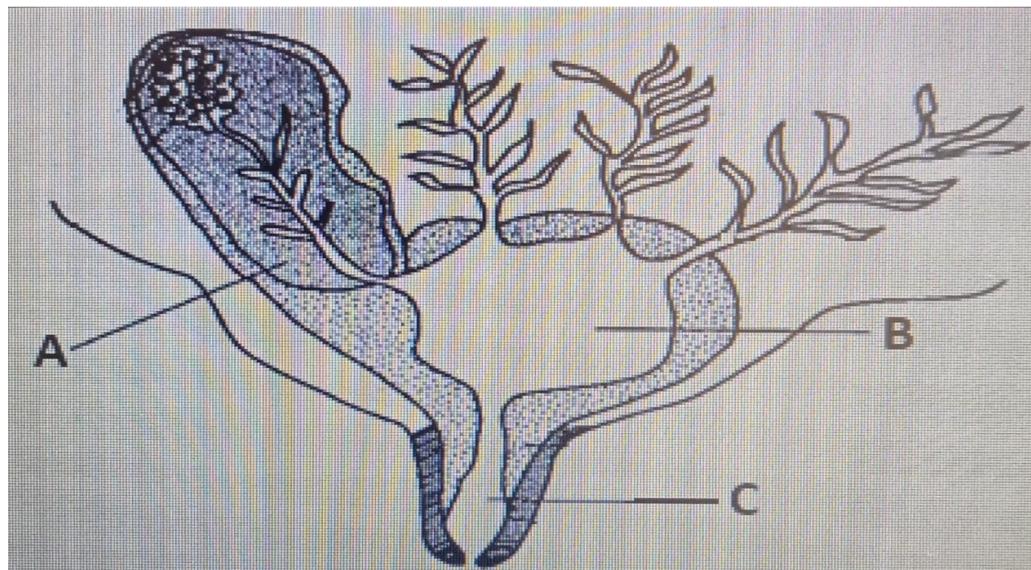
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- d) Give one advantage of natural breeding of chicks. (1 mark)

.....



19. Below is a longitudinal section of a cow's udder.



- a) Identify the parts labelled A, B, C. (3 marks)

A

B

C

- b) Give two pre-requisites of clean milk production. (2 marks)

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SECTION C: (40 MARKS)
Answer any two questions in this section.

20. (a) Discuss coccidiosis under the following headings.

(i) Causal organism (1 mark)

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.....

(ii) Livestock species attacked. (2 marks)

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(iii) Symptoms of attack. (4 marks)

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(iv) Control measures. (4 marks)

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(b) Describe the life cycle of the Liver fluke.

(9 marks)

21. (a) Describe physiological body conditions of good health in an animal.

(10 marks)



(b) State tentractor servicing done to a tractor.

(10 marks)

22. Explain any ten advantages of Artificial Insemination in dairy production.

(20 marks)



SERIES 11

PAPER 1

SECTION A: (30 MARKS)

Answer all questions

1. State **four** factors that one should consider when selecting planting materials. (2 marks)
2. State two crop production practices carried after planting to achieve optimum plant population.(1 marks)
3. At what state in the growth of beans should mechanical/weed control be avoided.(1 mark)
4. Name **one** vegetative material used to propagate each of the following crops. (2 marks)
 - (i) Irish potatoes
 - (ii) Pineapples
 - (iii) Bananas
 - (iv) Pyrethrum
5. Explain **two** ways through which temperature leads to formation of soil. (2 marks)
6. List **four** financial books that should be kept on a farm. (2 marks)
7. Give **two** reasons for drying grain crops before storage. (1 mark)
8. Give **two** sources where farmers get capital to start an enterprise. (1 mark)
9. Explain how monocropping leads to a loss of soil fertility. (2 marks)
10. What is opportunity cost? (1 mark)
11. Define agroforestry (1mark)
12. Name **four** sites for agroforestry trees. (2 marks)
13. Give four advantages of mixed pasture (2mks)
14. Give **two** ways by which losses are incurred in silage. (1mark)
15. Identify **two** examples of intensive systems practiced in agriculture. (1mark)
16. Give **two** types of carrot varieties. (1mark)
17. State two roles of water in plants. (1mark)
18. Why is drainage important in water logged land? (2 marks)
19. State **two** reasons why top soil layer of the soil profile should be maintained? (2 marks)
20. Give **four** benefits of monocropping. (2 marks)

SECTION B: (20 MARKS)

21. Sample weighing 200gm was heated in an oven at 105°C . the dry soil was weighed and the weight recorded as 188gm. The soil was then heated strongly after which was recorded as 180gms.
 - (i) Calculate the percentage content of water in the initial soil sample. (2 marks)
 - (ii) Why was the soil heated in the oven? (1 mark)
 - (iii) Calculate the weight of humus in the sample. (2 mark)
 - (iv) Find the percentage content of humus in the soil sample. (2 marks)

22. The illustration below shows a four- heap system of making compost manure. Study it and answer the questions that follow.

For more resources and marking schemes contact us on **0724351706** or visit our website www.golditekcserevision.co.ke And Download

X

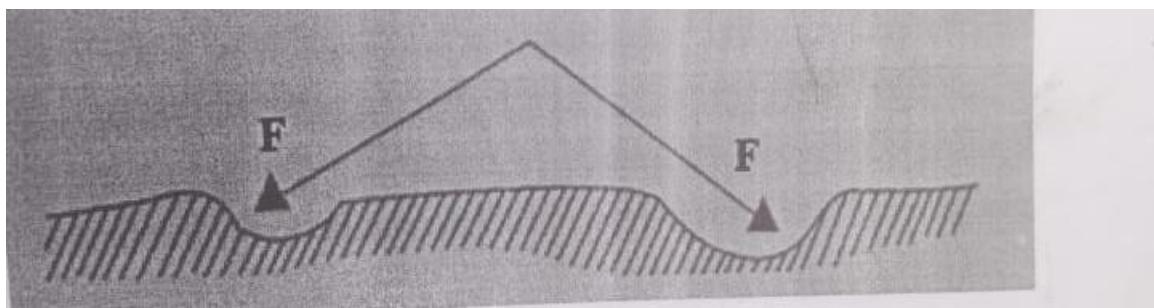
Y

X

Z

FIELD

- (a) By use of arrows indicate on the diagram above how materials should be transferred from one heap to another till the materials in applied in the field. (2 marks)
- (b) State **two** indicators of a well decomposed manure. (2 marks)
- (c) (i) Give **one** main reason for adding on a compost manure. (2 marks)
- (ii) Regular turning of the compost manure. (2 marks)
- 23.** Study the illustration below of a type of terrace. (1 mark)



- (i) Name the type of terrace. (1 mark)
- (ii) Identify part labeled F. (1 mark)
- (iii) Ways in which terrace controls soil erosion. (2 marks)
- (iv) Disadvantages of using this type of terrace. (1 mark)

SECTION C: (40 MARKS)

Answer **ANY TWO** questions from this section

- 24.** (a) What is solifluction? (1 mark)
- (b) Explain **four** factors affecting solifluction. (8 marks)
- (c). Describe the process involved in water treatment using a chemical treatment system.
- 25.** (a) Describe the practices that a farmer should carry out to ensure uniform germination(8mks)
- (b) (i) Differentiate between land subdivision and land fragmentation. (2 marks)
- (ii) Explain **ten** effects of fragmentation and sub-division of land. (10 marks)
- 26.** (a) Give **five** effects of HIV/AIDs and general health on agriculture production in Kenya. (5 marks)
- (b) State **eight** effects of temperature on agricultural production in Kenya. (8 marks)
- (c) Describe **seven** factors that should be considered when classifying crop pests. (7 marks)

PAPER 2

SECTION A: (30 MARKS)

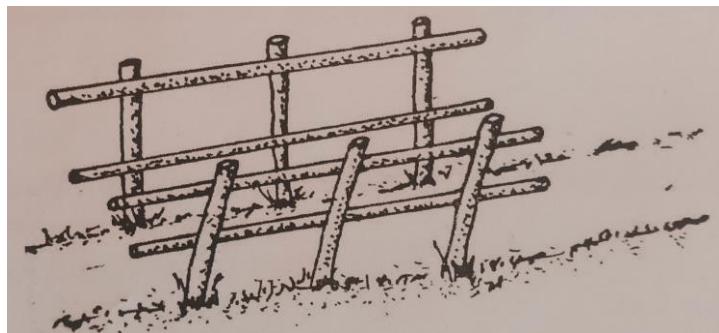
Answer all questions

1. Give **four** major features of exotic beef cattle breeds. (2 marks)
2. State **four** factors considered when selecting female rabbits for breeding. (2 marks)
3. State **four** ways of controlling tsetse flies. (2 marks)
4. Give **four** ways of stimulating milk let-down in a dairy cow. (2 marks)
5. State **four** disadvantages of natural mating as a method of breeding in dairy cattle management. (2 marks)
6. State **two** functions of a queen in a bee colony. (1 mark)
7. State **four** factors that would determine the amount of concentrate fed to dairy cattle. (2 marks)
8. State **four** features of a good pig house. (2 marks)
9. State **four** maintenance of a jack plane. (2 marks)
10. Give **four** causes of scouring in calves. (2 marks)
11. State **four** disadvantages of a tractor as a source of power. (2 marks)
12. Give **four** ways in which disease causing organisms can gain access into a newly born lamb. (2 marks)
13. State **four** factors to consider when siting a fish pond. (2 marks)
14. State **four** conditions that would encourage hens to eat eggs in poultry production. (2 marks)
15. State **four** methods of dehorning. (2 marks)
16. List **two** equipment used in handling cattle during an agricultural exhibition. (1 marks)

SECTION B: (20 MARKS)

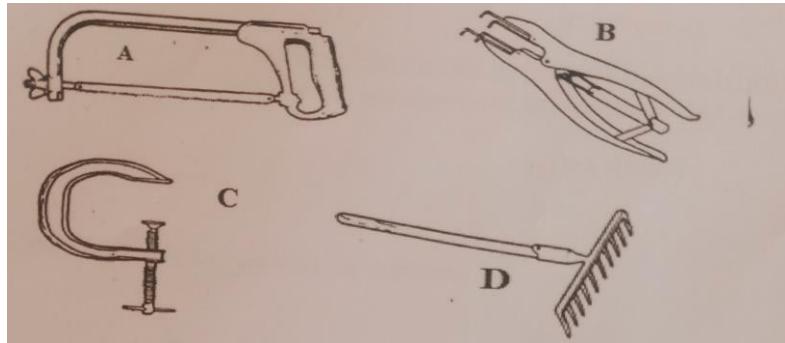
Answer ALL the questions in the spaces provided

17. The diagram below illustrates a livestock handling structure.



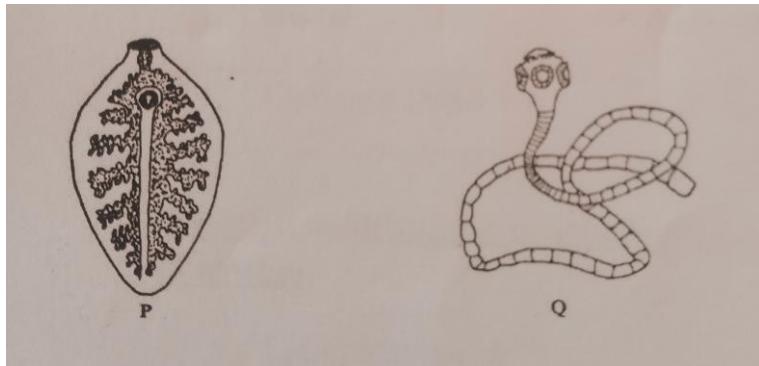
- (a) Identify the structure. (1 mark)
- (b) Name the **four** practices that a farmer can carry out in the structure. (2 marks)

18. Below are illustrations of farm tools labeled A, B, C and D. (2 mark)



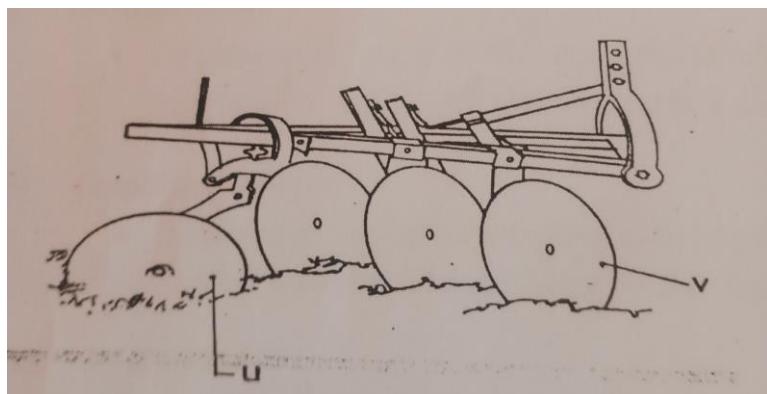
- (a) Identify the tool/equipment labeled A and B (2 marks)
 (b) State **one** appropriate use of the tool labeled C. (1 mark)
 (c) Explain **two** maintenance practices for the tool labeled C

19. Given below are illustrations of two adult internal parasites of sheep labeled P and Q.



- (a) Identify the parasites. P,Q (2 marks)
 (b) In which organs in livestock are parasite P and Q found? (2 marks)
 (c) How should sheep suffering from parasite Q infestation be treated. (1 mark)

20. The diagram below represents an implement



- (a) Identify the implement. (1 mark)
 (b) Name the parts labelled U and V and give one function of each. (2 marks)

	Name of part	Function
U		

- (c) State **four** maintenance practices carried out on the implement shown in the diagram.(2 marks)

SECTION C: (40 MARKS)

Answer ANY TWO questions from this section in the spaces provided after questions 23.

21. (a) Describe how each stroke in four stroke cycle petrol engine operates. (8 marks)
- (b) State six signs that are likely to be observed when a cow is on heat. (6 marks)
- (c). Describe **six** factors considered when choosing the type of poultry rearing system. (6 marks)
22. (a) Describe foot and mouth disease under the following headings.
- | | |
|---------------------------------|-----------|
| (i) Casual organism | (1 mark) |
| (ii) Livestock species attacked | (2 marks) |
| (iii) Symptoms of attack. | (4 marks) |
- (b) State the use of fences in farms. (8 marks)
- (c) Describe digestion of grass in small intestines of ruminant animals. (5 marks)
23. (a) Describe the factors considered when culling livestock. (5 marks)
- (b) Describe **five** factors that affect milk composition in dairy farming. (5 marks)
- (c) Explain measures used to control livestock diseases. (10 marks)

SERIES 12
PAPER 1

SECTION A (30marks)

Answer ALL questions in this section in the spaces provided

- 1) Give four aspects of rainfall that affect agricultural production. (2mks)
- 2) State four factors considered when choosing water pipes for use in the farm. (2mks)
- 3) List down four types of water erosion. (2mks)
- 4) Give three classes of weeds on the basis of growth cycle. (1½mks)
- 5) Define the term pest. (1mk)
- 6) State four reasons why burning of bushes is discouraged as a method of land clearing. (2mks)
- 7) Outline four factors considered when grading tomatoes. (2mks)
- 8) State four problems associated with marketing agricultural produce (2mks)
- 9) Give three maintenance practices carried out on water tanks. (1 ½ mks)
- 10) Give four characteristics of agroforestry trees (2mks)
- 11) Define the following terms. (2 mks)
 - (i) Nursery bed
 - (ii) Seed bed
 - (iii) Pricking out
 - (iv) Hardening off
- 12) List four financial documents used in the farm (2mks)
- 13) List down four factors of production. (2mks)
- 14) Name the parts harvested for each of the following crops. (1 ½ mks)
 - (a) Onions
 - (b) Carrots
 - (c) Coffee
- 15) Name four main methods of controlling pests in the farm. (2mks)
- 16) Mention three ways of applying water to crops (1 ½ mks)
- 17) Differentiate between pomoculture and olericulture (1mk)

SECTION B (20 Marks)

Answer ALL questions in this section

- 18.a) A farmer in Molo was advised to apply 80 kg of nitrogen to his maize plantation during top dressing. The fertilizer available was calcium ammonium nitrate (20% N). Calculate the amount of this fertilizer in kilograms the farmer should purchase (2mks)

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b. At what stage should the farmer top dress his maize crop (1mk)

c. State three methods of fertilizer application (3mks)

19. Below are common weeds. Use them to answer the questions that follow.



K



L



M



N

a) Identify the weeds labelled K, L,M, N (2marks)

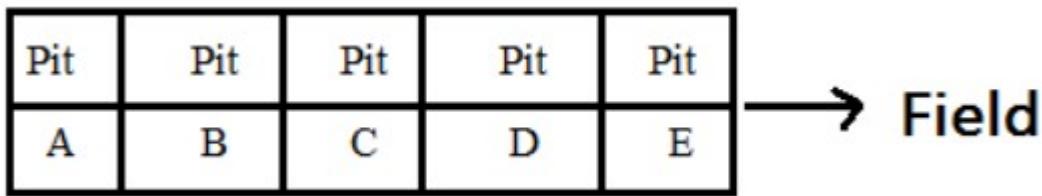
b) State the effect of the following weeds

i) K if fed to cows (1mark)

ii) L growing on a maize field (1mark)

c) Give a reason why weed M is difficult to control (1mark)

20. Study the illustration below of making compost manure and answer the questions that follow.

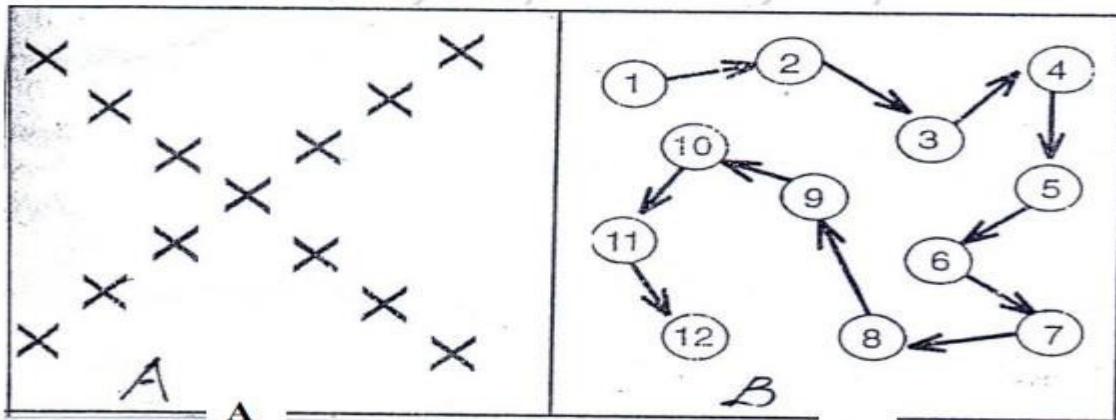


(a) Name the method of making compost manure illustrated above. (1mk)

(b) Name the other method of making compost manure. (1mk)

(c) State three qualities of well decomposed compost manure. (3mks)

21. The following diagrams illustrate two methods of soil sampling. Study them and answer questions that follow .



(a) What do diagrams A and B represent? (2 marks)

(b) Describe the procedure of soil sampling. (3 marks)

SECTION C (40mks)

Answer only two questions in this section

22. (a) Describe seven cultural or biological methods of soil and water conservation. (7 marks)

(b) Describe the importance of keeping farm records . (7 marks)

(c) Explain six objectives of the million acre scheme of land settlements. (6 marks)

23 (a) Describe the growing of dry bean seeds under the following sub headings.

(i) Selection and preparation of planting materials. (3marks)

(ii) Planting. (4marks)

(iii) Weeding. (3marks)

(b) Describe the environmental conditions that may lead to low crop yields (10 marks)

24. (a) Explain seven factors that influence seed rate in crop production. (7mks)

(b) Outline seven safety precautions observed when using herbicide in the farm. (7mks)

(c) Explain briefly any six factors that affect the quality of hay a farmer may produce in the farm.

(6mks)

PAPER 2

SECTION A (30 Marks)

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

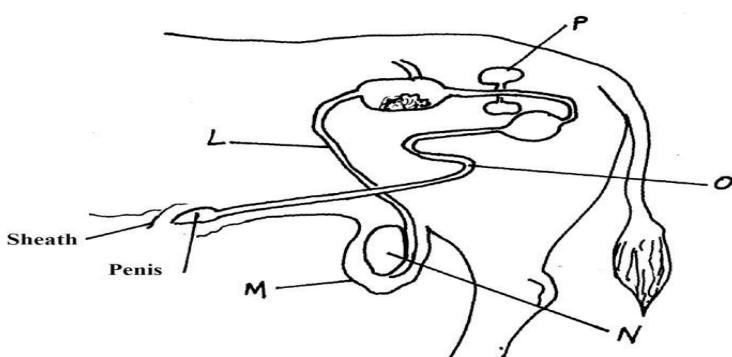
1. State two factors that determine the daily feed requirements of an animal. (1mk)
.....
.....
2. State three major categories of tick control measures. (1 ½ mks)
.....
.....
.....
3. Differentiate between skim milk and powdered milk. (1mk)
.....
.....
4. (a) Name a tool used for removal of gases which cause bloat in ruminant animals. (1mk)
.....
.....
(b) State the use of a ring spanner. (1mk)
.....
.....
5. What is the importance of dry cow therapy? (1mk)
.....
.....
6. What is epistasis in livestock breeding? (1mk)
.....
.....
7. (i) Define the term notifiable disease in cattle. (1mk)
.....
.....
(ii) Name any two notifiable diseases in cattle. (1 ½ mks)
.....
.....
8. Give three functions of a clutch in a tractor. (1 ½ mks)
.....
.....
9. Give three conditions that reduce the quality of eggs for hatching. (1 ½ mks)
.....
.....
10. State the importance of grit in the digestion of food in poultry. (1mk)
.....
.....
11. State two precautions taken into account when seasoning timber by air to be used for construction. (2mks)
.....
.....
12. Name four practices that can be carried out in a crush on the farm. (2mks)
.....
.....
13. (i) State the reasons for culling breeding sow. (1mk)
.....

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- (ii) Differentiate between ringing and crutching in sheep production. (1mk)
.....
14. Name the causative agents of Gumboro disease in poultry. (½ mk)
.....
15. State two reasons which necessitate handling of livestock on the farm. (2mks)
.....
.....
16. State two predisposing factors to foot-rot disease. (1mk)
.....
17. Give two harmful effects of fleas in poultry. (2mks)
.....
.....
18. Identify the following breeds:
(a) A goat breed, brown in colour with two white stripes from the eyes to the nose. (1mk)
.....
- (b) A dairy breed, light yellowish brown (fawn) to a shade of black, protruding black eyes, tail switch and muzzle are black. (1mk)
.....
19. Differentiate between a four stroke engine and a two stroke engine. (2mks)
.....
20. Name the two species that exist in camel. (1mk)
.....

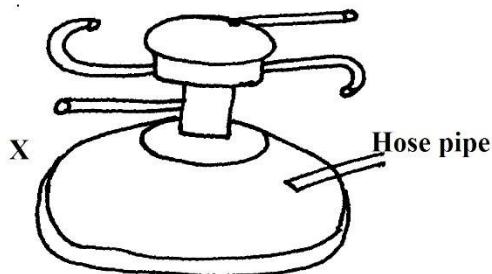
SECTION B (2MKS)

21. The diagram below shows a reproductive system of a bull. Study it and answer the questions that follow.



- (a) Identify the parts labeled M, N, O, P
M..... (1mk)
N..... (1mk)
O..... (1mk)
P..... (1mk)
- (b) State the function of the part labeled L. (1mk)
.....
22. Study the farm tools illustrated below and answer the questions that follow.

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(a) Identify the names of the tools labeled X and Y. (1mk)

X.....

Y.....

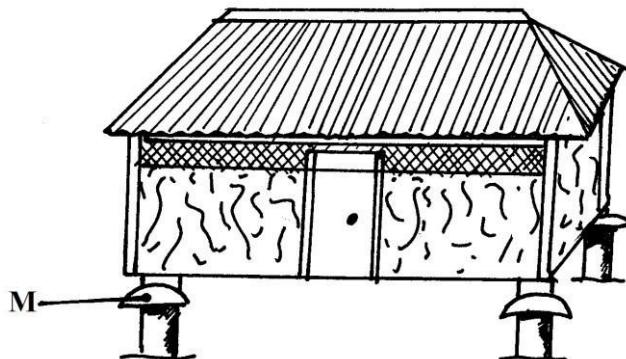
(b) State the category under which the above two farm tools belong. (1mk)

.....

(c) List two maintenance practice that can be carried out on tool Y. (2mks)

.....

23. Study the diagram of the farm structure below and answer the questions that follow.



(a) Identify the part labeled M. (1mk)

(b) State the function played by the part labeled M in the above structure. (1mk)

.....

(c) List three maintenance practices that can be carried out on the above structure. (3mks)

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

SECTION C (40 MKS)

Answer any two questions in this section at the end of question 27.

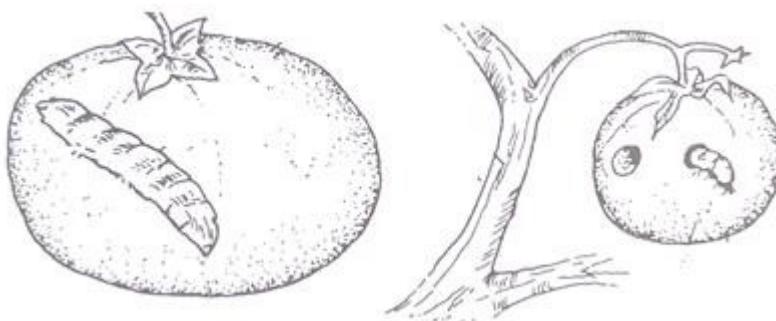
25. Describe ten general methods of disease control giving an example of the disease in each case. (20mks)
26. (a) Describe care and maintenance of water cooled engine. (5mks)
 (b) Describe the advantages and disadvantages of the animal drawn implements compared to tractor drawn implements. (10mks)
 (c) Give five advantages of a four stroke engine. (5mks)
27. (a) Describe the management practices carried out on dairy calves from birth to weaning. (10mks)
 (b) State five causes of cannibalism in a flock of layers. (5mks)
 (c) Explain the rules observed during milking. (5mks)

SERIES 13**PAPER 1****SECTION A (30 Marks)****Instructions: Answer all the questions in this section.**

1. Give four advantages of mixed farming. [2mks]
2. State two ways in which human health affects agricultural production. [1mk]
3. State four objectives of land reforms in Kenya [2mks]
4. Outline four disadvantages of cambered beds [2mks]
5. State four disadvantages of broadcasting as a method of planting [2mks]
6. State four factors that determines stage of harvesting a crop [2mks]
7. Give two precautions taken to ensure good crop establishment during planting [1mk]
8. State four advantages of using herbicides to control weeds. [2mks]
9. State four ways in which organic mulch materials conserve soil and water. [2mks]
10. State two field practices aimed at maintaining the optimum plant population. [1mk]
11. State two importance of grafting as a method of propagation. [1mk]
12. Give four reasons for limited use of organic manure in large scale crop production. [2mks]
13. State four factors to consider before deciding on the type of irrigation to use in crop production. [2mks]
14. State four importance of nurseries in crop production. [2mks]
15. State two causes of land fragmentation in Kenya since Independence. [1mk]
16. Give four general symptoms shown by crops infected by viral diseases. [2mks]
17. State what is meant by the term “trap crop” as used in crop pest control. [1mk]

SECTION B: 20 MARKS**Answer all the questions in this section in the spaces provided.**

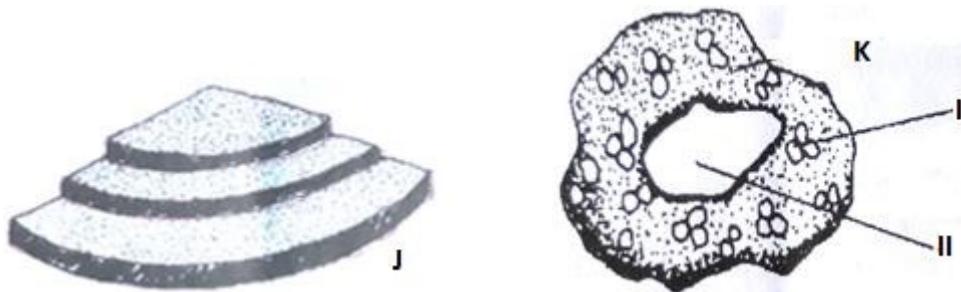
18. The diagram below illustrates a tomato fruit infected by a field pest.



- a) Identify the pest [1mk]
- b) State two ways in which the pest is economically important. [2mks]
- c) State two cultural ways of controlling the above pest. [2mks]

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19. The diagram below illustrates some types of soil structure. Study and answer the questions that follow.



- a) Identify type of soil structure illustrated by: [2mks]

J:

K:

- b) Name parts labelled i and ii in diagram K. [1mk]

- c) State two disadvantages of soil structure J. [2mks]

20. The diagram below shows a method of bringing tea into bearing. Study it carefully and use it to answer the questions that follow.

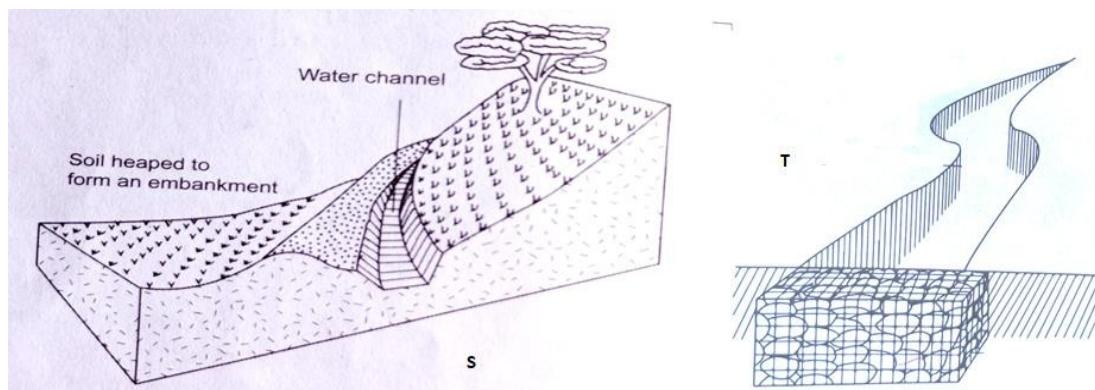


- a) Identify the method in the diagram above. [1mk]

- 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. [3mks]

21. The illustration labelled S and T below show some structural method used in soil and water conservation.



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- i) Identify the structure S and T [1mk]
- ii) State the function of the embankment in diagram S. [1mk]
- iii) State two ways in which structure T help to control soil erosion. [1mk]
- iv) State two maintenance practices that should be carried out in structure S. [2mks]

SECTION C(40 Marks)

Answer any two questions in this section.

- 22. (a) List various methods of harvesting water in a farm [5mks]
b) Outline the precautions observed when harvesting pyrethrum [5mks]
c) Explain how various farming practices would help to conserve soil in a farm. [10mks]
- 23. (a) Explain six advantages of mulching in crop production. [6mks]
b) Outline seven activities that may be undertaken in organic farming [7mks]
c) Discuss seven benefits a farmer is likely to get using vegetative propagation in production of oranges. [7mks]
- 24. (a) Outline eight physical methods that can be used to control crop pests in the farm. [8mks]
b) Explain seven factors that influences seed rate in crop production. [7mks]
c) Explain five negative effects of liberalization of market on farming in Kenya. [5mks]

PAPER 2

SECTION A (30MARKS)

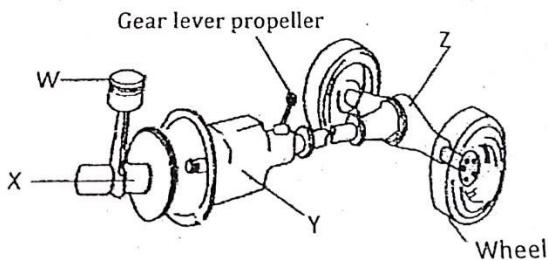
Answer ALL the questions in this Section in the spaces provided.

1. Name two diseases controlled by administering one vaccine. (1mk)
2. Give four conditions under which one would use an oxcart instead of a tractor trailer. (2marks)
3. State two characteristics of beef cattle. (1mark)
4. State Two ways through which production ration may be utilized by a bull. (1mk)
5. Outline four reasons for debeaking in poultry. (2marks)
6. Give four precautions observed when working with workshop tools. (2mks)
7. State Two feeding characteristics of goats that make them less vulnerable to internal parasites (1mk)
8. State four factors considered when formulating livestock Ration. (2marks)
9. Give four signs of Anthrax after death of a cow. (2marks)
10. State four pre- milking practices in a dairy herd. (2marks)
11. Name four implements connected to power take off (P.T.O) shaft. (2marks)
12. Differentiate between mothering ability and prolificacy. (1mark)
13. Give four limitations of hydro – electric power on the farm. (2marks)
14. Give two functions of drones in bee hives. (1mark)
15. Outline Two problems associated with lambing. (2marks)
16. State four factors that influence the rate of respiration of farm animals. (2marks)
17. Give four reasons for docking in lambs. (2marks)
18. Give four functions of the omasum in the digestive system of ruminants. (2marks)

SECTION B (20MARKS)

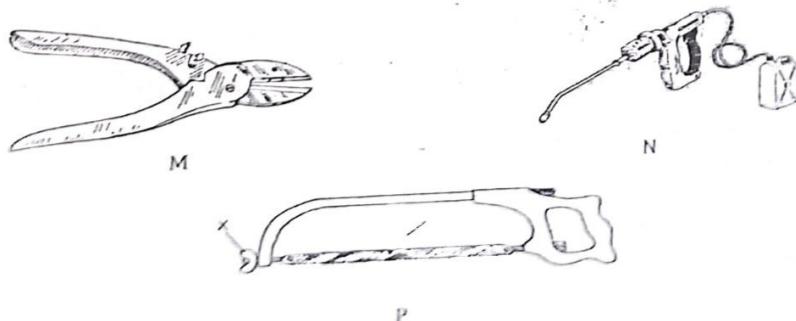
Answer all questions in this Section in the spaces provided.

19. The diagram below shows part of the power transmission system of a tractor. Study it carefully and answer the questions below.



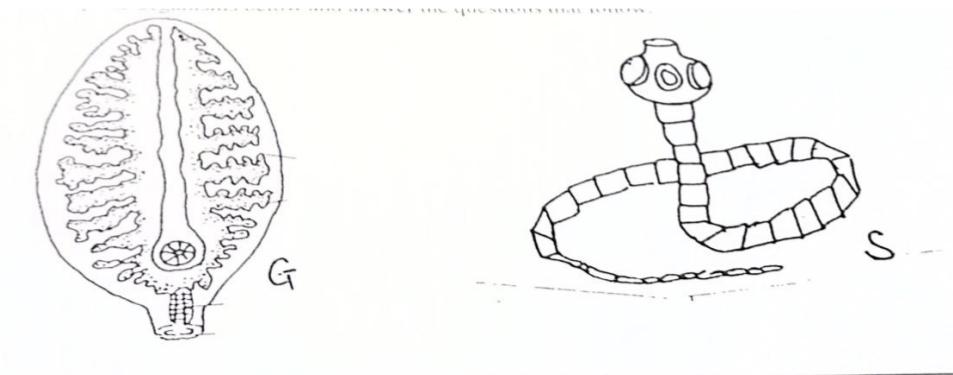
- (a) Name the parts labelled W and Y. (2marks)
- (b) State the functions of the part labelled Z. (1mark)
- (c) Name two ways in which the power is transmitted from the engine. (2marks)

20. The diagrams below represent tools used in the farm.



- (a) Identify the tool represented by diagrams M,N and P. (3marks)
- (b) State the uses of the tools represented by M and N. (2marks)
- (c) Identify the part labelled X in the tool represented by P. (1mark)

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



- (a) Identify the organisms G and S. (2marks)
- (b) State the category to which the organisms belong to. (1mark)
- (c) Name the part of organ of the host body where parasite G is found. (1mark)
- (d) Name the intermediate hosts for each of the parasites G and S. (2marks)
- (e) State three factors considered when controlling endo parasites. (3marks)

SECTION C(40MARKS)

Answer any Two questions from this section.

22. (a) Give five reasons why Tilapia is the most popular species of fish reared in Kenyan fish ponds. (5marks)
- (b) Explain factors considered when siting a cattle dip. (5marks)
- (c) Discuss the tools required for the construction of a Kenyan top bar hive. (10marks)
23. (a) Discuss how you can improve milk production in a low yielding herd of dairy cattle. (15marks)
- (b) State five maintenance practices carried out on a fish pond to get maximum production(5marks)
24. (a) Explain the practices carried out to control diseases and parasites in a flock of broilers. (10marks)
- (b) Compare the use of an ox – Moulboard plough with a tractor drawn mouldboard plough. (10marks)

SERIES 14**PAPER 1****SECTION A (30MKS)*****ANSWER ALL QUESTIONS***

- 1.** State four advantages of extension farming system (2mks)
- 2.** State four ways of carrying out organic farming in Kenya (2mks)
- 3.** State four effects of high level of education and technology in agriculture (2mks)
- 4.** State four ways in which biotic factors influence agricultural production (2mks)
- 5.** State four advantages of deep ploughing (2mks)
- 6.** State four factors to consider when choosing water pipes (2mks)
- 7.** State four agricultural activities that cause water pollution (2mks)
- 8.** State four ways in which mulching helps in controlling soil erosion (2mks)
- 9.** State four effects of excess nitrogen in plants (2mks)
- 10.** State four reasons for correct spacing during plating (2mks)
- 11.** State four contributions of settlement schemes to agricultural development (2mks)
- 12.** State four advantages of cultural methods of weed control (2mks)
- 13.** Define the following terms as used in pest ad disease control (2mks)
 - I. Integrated Pest Management (I.P.M)
 - II. Economic Injury Level (E.I.C)
- 14.** State four common symptoms of viral diseases in plants (2mks)
- 15.** State four examples of fixed capital in agricultural production (2mks)

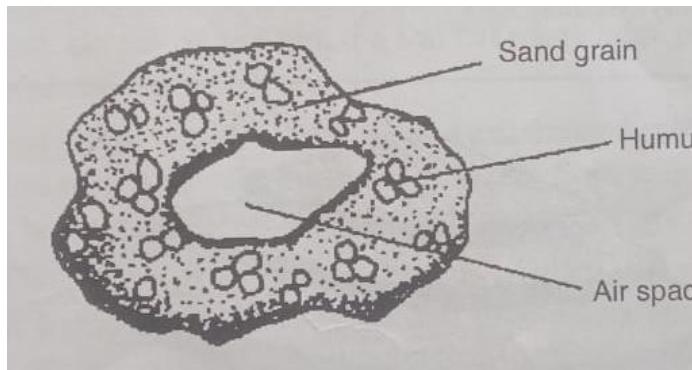
SECTION B***ANSWER ALL QUESTIONS***

- 16.** Study the diagram drawn below and answer the questions that follow



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- a) Identify the weed (1mk)
- b) Using features on the diagram, give two reasons why it is difficult to eradicate the above weed (2mks)
- c) State two ways in which the weed is economically important (2mks)
17. Study the diagram drawn below and answer the questions that follow



i
ii

- a) Name the parts labeled i and ii (2mks)
- b) Name the horizon where the structure drawn above is found (1mk)
- c) State two effects of good soil structure in crop production (2mks)
18. The diagram below illustrates a nursery practice



- a) What is the appropriate stage of growth for carrying out the illustrated practice in
I. Vegetables? (1mk)

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II. Tree/Agroforestry? (1mk)

b) Explain three activities carried out to ensure that the practice is carried out successfully (3mks)

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

Country	Gross Domestic Product (In millions)	Population (In millions)
A	1,800	36
B	1,260	15

- a) Calculate the per capital income for each country (2mks)
- b) Which of the two countries is more developed economically? (1mk)
- c) Give a reason for your answer in (b) above (1mk)
- d) How can agriculture increase the gross domestic product of a country? (1mk)

SECTION C (40 MKS)

Choose ONLY 2 Questions

20.a) Explain 10 factors that makes weeds better competitors than crops (10mks)

b) Explain 10 cultural methods of pest control in the farm (10mks)

21 a) Describe *Lycopersicon esculentum* under the following subheadings

I. Cultivated varieties (2mks)

II. Nursery establishment and management (6mks)

III. Harvesting (2mks)

b) State 10 agricultural support services available to livestock farmers (10mks)

22. a) State 10 government policy that improves agriculture (10mks)

b) Explain 10 harmful effects of crop pest in the farm (10mks)

PAPER 2

SECTION A (30MARKS)

Answer all the questions in this section

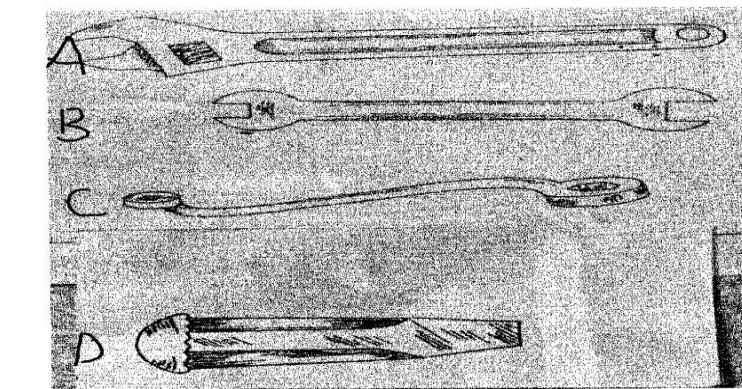
- 1) Give four reasons why farm tools should be well maintained (2mks)
- 2) Give four factors considered when siting a fish pond (2mks)
- 3) Give four factors determining the quality of honey (2mks)
- 4) State four importance of vitamins in animals' body (2mks)
- 5) State any five qualities of a good vaccine administered to animals (2mks)
- 6) Give any cause of stress in poultry (2mks)
- 7) State any four non – chemical methods of controlling ticks (2mks)
- 8) State any four functions of lubrication system in tractor (2mks)
- 9) State any four reasons for keeping farm animals healthy (2mks)
- 10) Give four control measures of controlling cannibalism in a deep litter rearing system (2mks)
- 11) Give any four advantages of feeding young calves on colostrum (2mks)
- 12) State any four reasons for dehorning male calves (2mks)
- 13) State any four factors considered when selecting construction materials (2mks)
- 14) Give two importance of litter materials in poultry house (1mk)
- 15) State two importance of steaming up in dairy cattle management (2mks)

SECTION B(20MARKS)

Answer the questions in this section

16.

Ia a) Identify the following tools



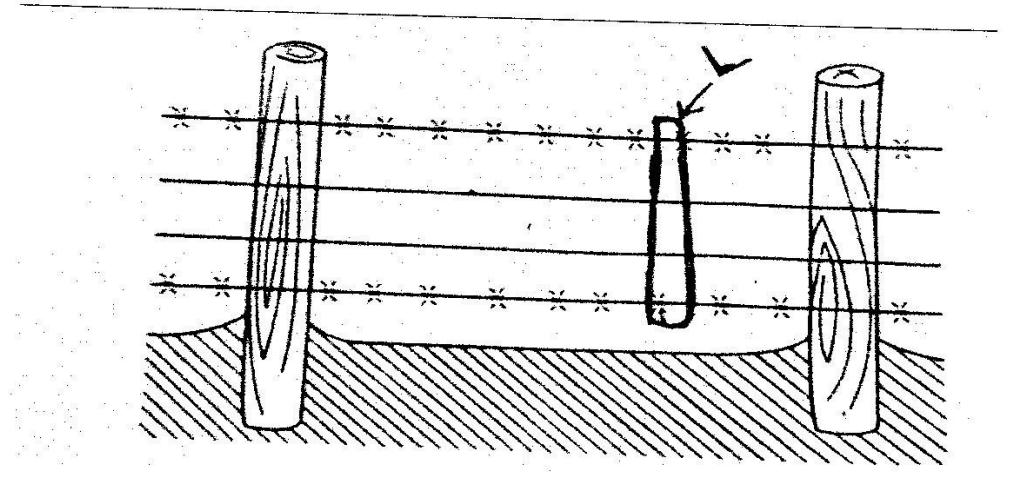
b) Give one functional advantage of tool A over B (2mks)

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17. Compute a livestock ration containing 17% protein using sorghum which contains 8% of proteins and cotton seed cake containing 36% of proteins. Given that the total weight of the ration is 200Kg. (use Pearson square method) (5mks)

18.

a) Identify the type of fence illustrated below



b)

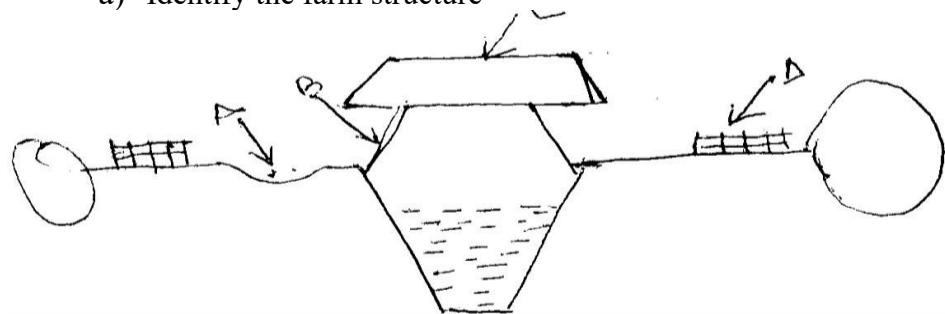
i) Identify the part marked L (1mk)

ii) Give the function of the part marked L (2mks)

c) Give any four materials used for the construction of the structure (2mks)

19.

a) Identify the farm structure (1mk)



b) Name the parts marked A B C D (2mks)

c) State two functions of the part marked C (2mks)

SECTION C (40MARKS)
Answer only two questions from this section

20.

- a) Describe the functioning of four stroke tractor engine (9mks)
- b) Describe five differences between petrol and diesel engine of a tractor (5mks)
- c) Explain any six maintenance practices of a tractor battery (6mks)

21. Describe the mastitis disease under the following sub – heading; a)

- i) Causal organism (2mks)
- ii) Animal affected (2mks)
- b) Predisposing factors (10mks)
- c) Control measures (6mks)

22.

- a) Describe factors considered when siting farm structure (8mks)
- b) Explain any six functions of farm buildings (6mks)
- c) Describe the procedure of harvesting honey (6mks)

PREDCTION 5

PAPER 1

SECTION A (30MARKS)

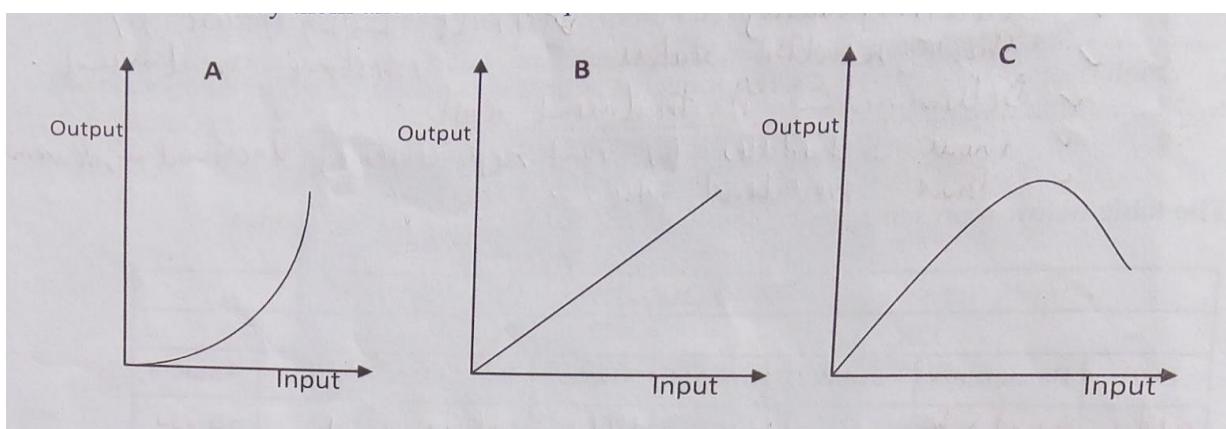
Answer all the questions in this section in the space provided.

1. Give four advantages of intensive farming. (2mks)
2. State four benefits of agroforestry to a maize crop. (2mks)
3. Name the plant part used for vegetative propagation of each of the following plants.
 - (i) Sisal (½ mk)
 - (ii) Pyrethrum (½ mk)
 - (iii) Sweet potatoes (½ mk)
 - (iv) Sugar cane (½ mk)
4. State four cultural ways of controlling couch grass (2mks)
5. Name three sources of underground water (1½mks)
6. State three causes of blossom end of rot in tomatoes (1½mks)
7. Give three qualities of a good green manuring plant (1½mks)
8. State four reasons for practicing minimum tillage. (2mks)
9. Name four farm records that should be kept by a poultry farmer. (2mks)
10. Give three ways in which pastures are classified (1½mks)
11. State four ways in which land reforms can be implemented in Kenya. (2mks)
12. State four factors that determine the stage at which a crop is harvested. (2mks)
13. Give four beneficial effects of weeds to a farmer. (2mks)
14. Give four advantages of practicing crop rotation. (2mks)
15. Name four methods of controlling pests. (2mks)
16. Distinguish between intensive hedgerow and border planting forms of agroforestry (2mk)

SECTION B (20 MARKS)

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

17. The following illustrations show different production function curves in agricultural economics. Study them and answer the questions which follows;



(a) Identify the production function curves labeled A, B and C (3mks)

(b) What does the law derived from the production function labeled C state? (1mk)

(c)

(i) Which one of the three production functions curves is rare in Agriculture (1mk)

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

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

Country	Gross Domestic product (million Ksh)	Population (million)
A	1800	36
B	1200	15

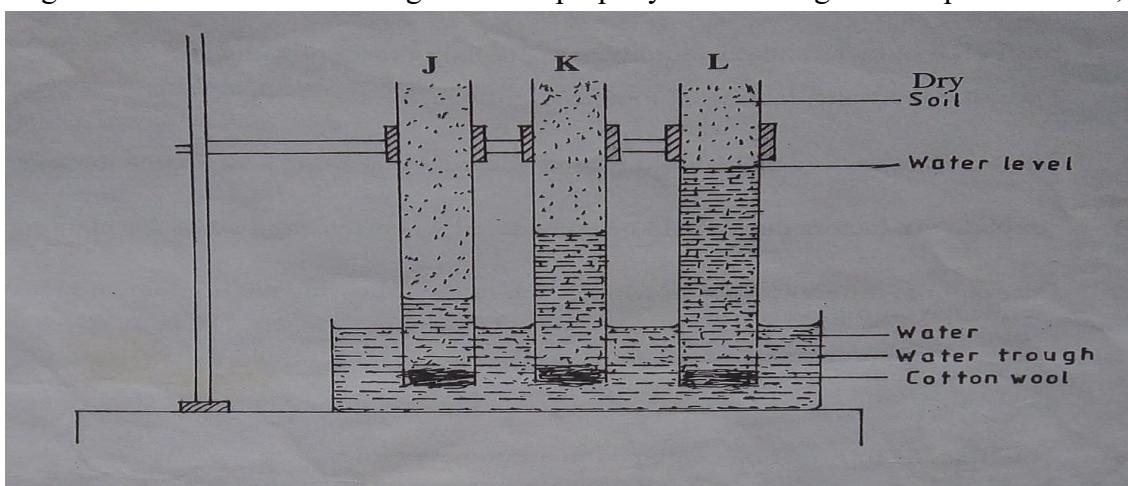
(a) Calculate the per capita income for each country show your working (2mks)

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

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

(d) How can agriculture increase the gross domestic product of a country (1mk)

19. The diagram below illustrate investigation on a property of soil using soil samples labeled J, K and L.



(a) Name the property of soil being investigated (1mk)

(b) What is the relationship between the soil property above and the size of soil particles? (1mk)

(c) Which soil sample would be suitable for growing paddy rice? (1mk)

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

20. The following is a list of nutrients: copper, calcium, nitrogen, molybdenum, zinc, phosphorus, carbon, sulphur, iron and magnesium. Which of the above nutrients are;

(a) Macro – nutrients (1mk)

(b) Micro – nutrient (1mk)

- | | |
|-----------------------------|-------|
| (c) Fertilizer elements | (1mk) |
| (d) Liming elements | (1mk) |
| (e) Primary macro nutrients | (1mk) |

SECTION C

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

21.

- | | |
|--|---------|
| (a) Explain five functions of a live fence in a farm. | (5mks) |
| (b) Describe various risks and uncertainties in crop farming | (10mks) |
| (c) State five functions of young farmers clubs in Kenya | (5mks) |

22.

- | | |
|--|---------|
| (a) Explain five factors that should be considered in farm planning | (10mks) |
| (b) Explain the different ways in which each of the following environmental factors influence crop production. | |
| (i) Wind | (5mks) |
| (ii) Temperature | (5mks) |

23.

- | | |
|--|--------|
| (a) Outline the information contained in a purchase order. | (5mks) |
| (b) Describe the harvesting of tea | (7mks) |
| (c) Explain the cultural methods of controlling soil erosion | (8mks) |

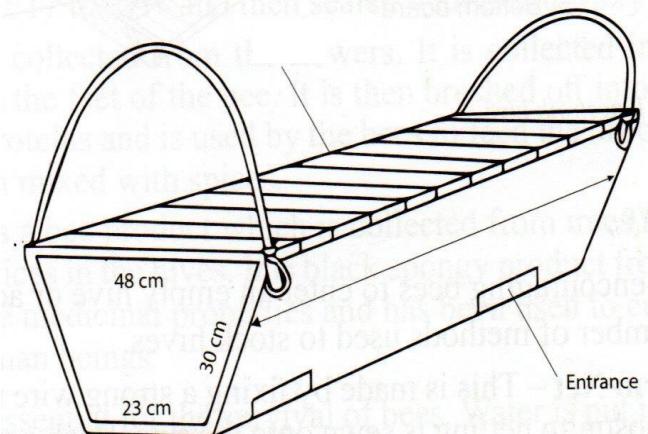
SERIES 15**PAPER 2****SECTION A: (30 MARKS)****Answer all questions in this section in the spaces provided.**

- 1) Name **three** meat breeds of sheep. (1½ marks)
- 2) List **two** methods of identifying pigs. (1 mark)
- 3) Differentiate between oestrus cycle and heat period. (1 mark)
- 4) State **three** qualities of marketable eggs. (1½mks)
- 5) Name any **four** notifiable diseases in livestock. (2mks)
- 6) State four factors that affect maintenance ration required by an animal (2mks)
- 7) Give a reason why ruminant animals are able to digest grass. (1 mark)
- 8) Give the difference in meaning of the following terms as used in livestock health.
 - a. Quarantine and Isolation (1 mark)
 - b. Zoonotic and notifiable diseases (1 mark)
- 9) Give **four** reasons for feeding calves with colostrum. (2mks)
- 10) Differentiate between cropping and harvesting in fish production.(1 mark)
- 11) State **four** major routes of administering vaccines in day old chicks. (2mks)
- 12) Give two reasons for feeding bees (1mk)
- 13) Name the vectors for each of the following livestock diseases. (2 marks)
 - a) East coast fever.....
 - b) Rift valley fever.....
 - c) Trypanosomiasis.....
 - d) Nairobi sheep disease.....
- 14) a) Name the tools used in (2 marks)
 - (i) Cutting curves on thin wood.....
 - (ii) Measuring the inner diameter of a circular object/surface.....
 - (iii) Cutting thin sheets of metal.....
 - (iv) Tightening wires during fencing.....
b) State **Four** care and maintenance practices of masonry tools and equipment. (1 mark)
- 15) State **two** ways in which proper feeding contributes to disease control in livestock. (1 mark)
- 16) Outline four factors which would be considered when culling layers. (2 marks)
- 17) a) What is parasitism? (½ mark)
b) Name one parasite of bees. (½ mark)
c) Give any four harmful effects of lice on livestock. (2mks)
- 18) Name two methods used in ration computation. (1mk)

SECTION B: (20 MARKS)

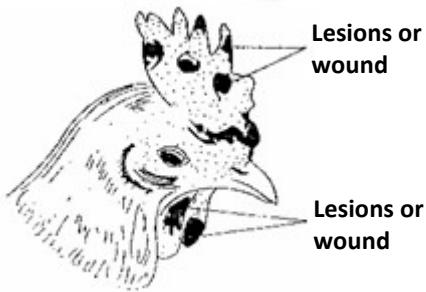
Answer all questions in this section in the spaces provided.

19. Below is a diagram of a bee hive.



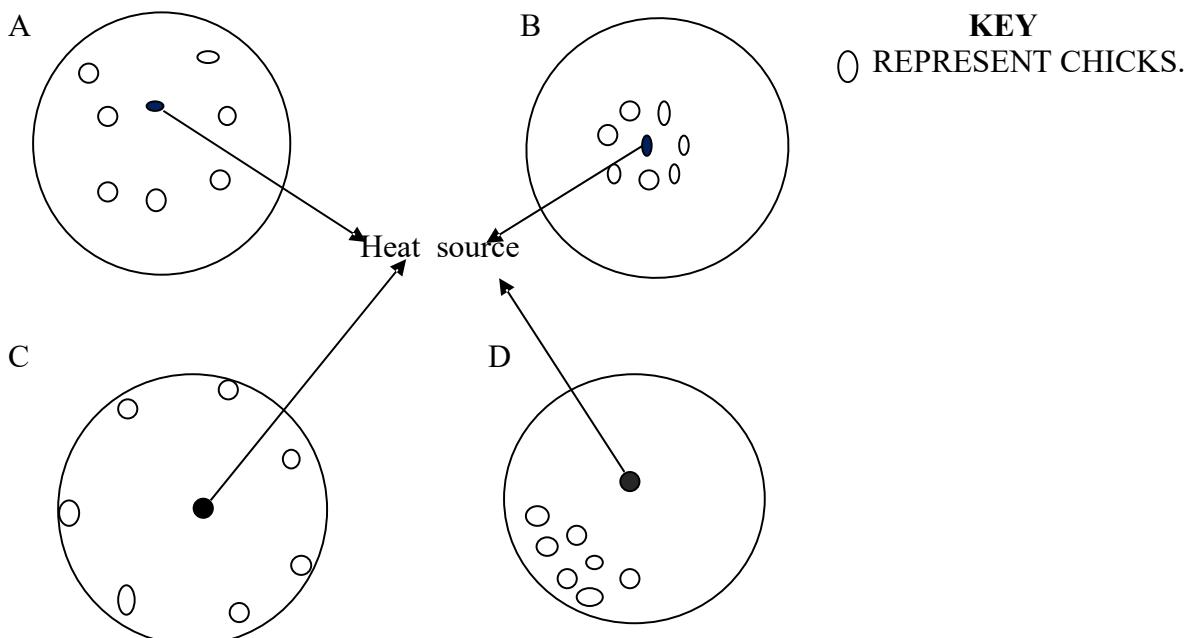
- a) Identify the type of hive above. (1mk)
b) Give two advantages of using this type of hive on the farm. (2mks)
c) State two reasons why bees swarm. (2mks)

20. The following diagram illustrate symptoms of a disease in poultry. Study it carefully and answer the question that follows.

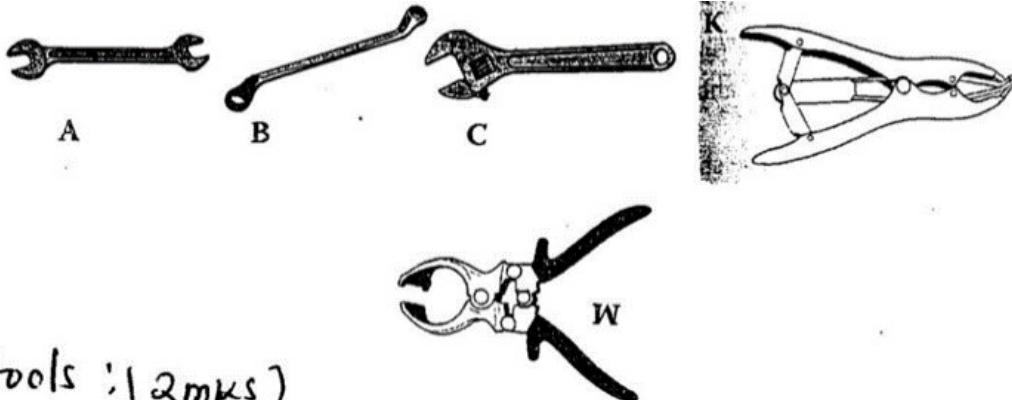


- (a) Identify: (i) The disease. (½ mark)
 (ii) The causal organism. (½ mark)
(b) State **two** other symptoms of the disease apart from lesion.(2 marks)
(c) State **two** control measures for the disease. (2 marks)

21. The illustrations below shows behavior of chicks in a brooder in response to certain conditions. Study it carefully and answer the questions that follow.



- (a) Explain the reasons for the behavior of chicks in the above diagrams A B C D (4 marks)
 (b) Give two other signs the chick will show other than the ones you have given in (a) above. (1 mark)
22. The diagrams below show some farm tools. Study them and answer the question that follow.



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

SECTION C: (40 MARKS)

Answer any two questions from this section.

23. a) Describe trypanosomiasis disease under the following sub-headings.
 i) Causal organism (1 Mk)
 ii) Animal attacked (1 Mk)
 iii) Symptoms of attacked animals (5 Mks)
 iv) Control measures (3 Mks)
- b) Describe five control measures for cannibalism in poultry (5 Mks)
- c) Explain the procedure in establishment of foundation in farm buildings (5mks)
24. a) State the functions of any six parts of a plunge dip (5mks)
 b) State five signs of parturition in cattle (5mks)
 c) State five maintenance practices of a fish pond (5mks)
 d) Explain five factors considered when selecting livestock for breeding (5mks)
- 25.
- a) Describe the management of a sow during parturition. (10 marks)
 - b) Describe the lifecycle of a three host tick. (7 marks)
 - c) Outline three effects of endo-parasites to the host animals (3mks)

SERIES 16

PAPER 1

SECTION A(30MKS)

Answer all questions in SECTION A in the spaces provided.

1. State **four** effects of high temperatures on crop production. (2mks)
- 2.
3. State **four** methods of weed control in Napier grass (*Pennisetum purpureum*) (2mks)
4. List **four** methods of improving labour productivity. (2mks)
5. Outline **four** problems on marketing vegetables. (2mks)
6. (a) List **three** types of organic manure (1 $\frac{1}{2}$ mks)
(b) Outline **three** ways how crop rotation helps to maintain soil fertility. (1 $\frac{1}{2}$ mks)
(a) Differentiate between training and earthing up as used in crop production. (2mks)
(b) State **two** effects of excess nitrogenous fertilizers in tomatoes. (1mk)
7. Outline four advantages of row planting. (2mks)
8. State four functions of Young Farmers Club(YFC). (2mks)
9. Outline four effects of soil erosion. (2mks)
10. State **four** roles of trees in soil and water conservation. (2mks)
11. State **four** environmental factors that affect the effectiveness of a herbicide. (2mks)
12. State **four** advantages of a farmer holding a Land Title Deed. (2mks)
13. Name **four** examples of joint products in product-product relationships (2mks)
14. List **four** different types of drainage. (2mks)

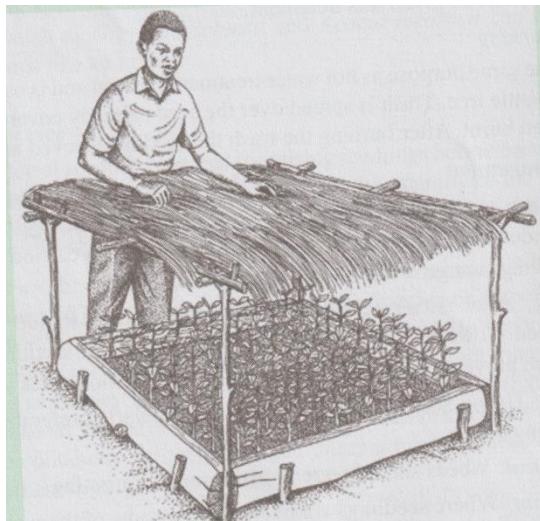
SECTION B (20MKS)

Answer all questions in this section in the spaces provided.

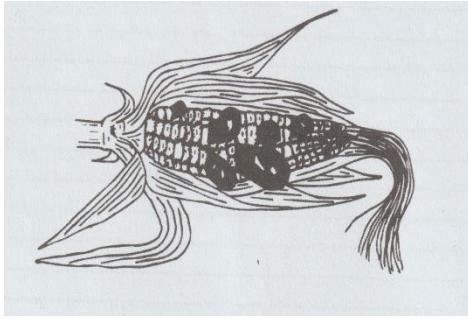
15. The diagram below shows common structures in water supply.



- (a) Name structures labelled K₁ and K₂. (2mks)
- (b) State two uses of K₁ (2mks)
- (c) Name **two** types of hose pipes. (1mk)
16. (a) Maize is grown at a spacing of 90 cm X 30 cm. Calculate the plant population of maize planted in a plot measuring 29M x 22M. (3mks)
- (b) Explain **two** factors that influence the spacing of crops. (2mks)
17. The diagram below shows a common practice carried out during raising of agroforestry tree seedlings.



- (a) State **two** roles of the shade erected over the nursery bed. (2mks)
- (b) State **two** practices that are carried out during the growth of the seedlings. (2mks)
- (c) Define the term silvopastoral. (1mk)
18. The diagram below shows a maize cob attacked by a certain disease.



- (a) Name the disease. (1mk)
- (b) State the causal organism of the disease named in (a) above. (1mk)
- (c) Name **one** other crop attacked by the disease. (1mk)
- (d) State **two** control measures for the disease. (2mks)

SECTION C (40 MARKS)

Answer any two questions in this section in the spaces provided after question 21.

19. (a) Outline **five** farming practices that encourage minimum tillage. (5mks)
(b) Describe **four** field management practices carried out in carrot production. (8mks)
(c) Outline **seven** principles of co-operatives. (7mks)
20. (a) Outline **three** precautions in harvesting of tea. (3mks)
(b) Outline **five** advantages of rotational grazing. (5mks)
(c) Explain six factors influencing the demand for a commodity. (6mks)
(d) State **six** advantages of sub-surface irrigation. (6mks)
21. (a) Outline **four** disadvantages of burning vegetation cover during land clearing. (4mks)
(b) State **six** advantages of using vegetative materials for planting. (6mks)
(c) state **four** pieces of information contained in a purchase order. (4mks)
(d) Explain **six** cultural methods of weed control . (6mks)

PAPER 2

SECTION A (30 MARKS)

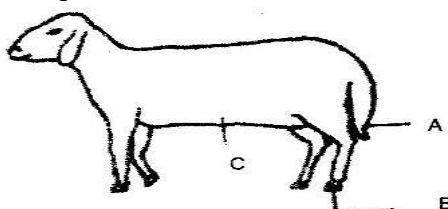
Answer all the questions in this section in the spaces provided

- 1) State **four** precautions that should be observed when shearing sheep to ensure production of high quality wool. (2 marks)
- 2) State **four** characteristics of the Duroc Jersey pig. (2 marks)
- 3) Give **four** ways in which infectious diseases can spread from one livestock to another within a farm. (2marks)
- 4) State **four** disadvantages of natural mating as a method of breeding in dairy cattle management. (2marks)
- 5) Give **four** qualities of creep feeds that make it suitable for piglets. (2 marks)
- 6) Give **four** features of housing that help to control livestock diseases. (2 marks)
- 7) State **four** reasons for dehorning. (2 marks)
- 8) State **four** disadvantages of free range system of poultry rearing. (2 marks)
- 9) State **four** methods of maintaining a wheel barrow. (2 marks)
- 10) Explain how each of the following is measured in cattle.
 - (a). Blood temperature. (1 mark)
 - (b). Respiratory rate. (1 mark)
- 11) Outline **four** benefits of using biogas as a source of power on the farm. (2 marks)
- 12) The following is a list of poultry breeds
 - I. White leghorn
 - II. Light Sussex
 - III. Rhode Island
 - IV. Red Ancona
 - V. Categorize them into
 - (a) Light breeds. (1 mark)
 - (b) Heavy breeds. (1 mark)
- 13) Give **four** limitations of using solar power on the farm. (2 marks)
- 14) State the function of each of the following:
 - (a). Mallet. (½ mark)
 - (b). Tocar and canula. (½ mark)
 - (c). Garden line. (½ mark)
 - (d). Stock and die. (½ mark)
- 15) Apart from the roof, name **four** other parts of a building that can be constructed using wood. (2 marks)

SECTION B (20 MARKS)

Answer all questions in this section in the spaces provided

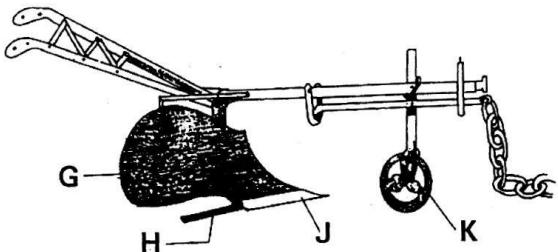
16. Below is a diagram of a sheep with some parts labeled A,B and C. Study the diagram and answer the questions that follow.



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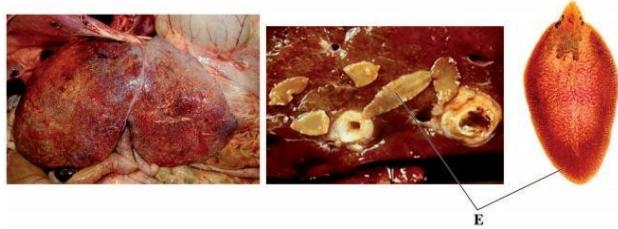
- (i). What operation is usually carried out on the part labeled A during a sheep's early stages of life? (1 mark)
(ii). Why is it necessary to carry out the operation in (i) above? (1 mark)
(iii). Which operation is usually carried out on part labeled B. (1 mark)
(iv). What problem would occur if the operation in (V) above is not carried out? (1 mark)
(v). How should the sheep be held when shearing wool around part labeled C? (1 mark)

17. The diagram below shows a farm implement. Study it and answer the questions that follow.



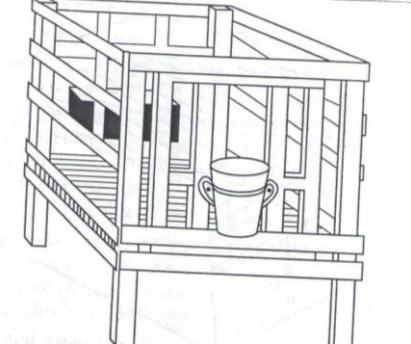
- (a). Identify the farm implement illustrated above. (1 mark)
(b). Name the parts labelled G,H,J and K (2 marks)
(c). State **four** functions of the farm implement illustrated above. (2 marks)

18. The picture below illustrates a livestock organ infested by a parasite labelled E.



- (a). Name the disease the livestock is suffering from. (1 mark)
(b). Identify the parasite labelled E. (1 mark)
(c). State **two** control measures for the parasite. (2 marks)
(d). State **two** signs of infestation shown in the picture above. (1 mark)

19. The diagram below represents a calf pen. Study the diagram and answer the questions that follow.



- (a) (i). Identify the type of floor. (1 mark)
(ii). How high should the floor be raised above the ground level? (1 mark)
(b) (i). Give **one** reason for having the floor of the calf pen raised. (1 mark)
(ii). State **two** factors that should be considered in siting the calf pen. (2 marks)

SECTION C (40 Marks)

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

20. (a). Describe the life cycle of a named tape worm (Taenia spp). (10 marks)
(b). Describe the management of one day old chicks in a brooder until they are eight weeks old.(10 marks)
21. (a) (i). Describe the milking procedure under the following sub-headings
 (ii). Pre-milking practices. (5 marks)
 (iii). Procedure of proper milking. (5 marks)
(b). State the functions of any **five** parts of a piggery unit. (5 marks)
(c). Outline the daily maintenance practices that should be carried out on a farm tractor. (5 marks)
22. (a). State **five** signs of heat in cattle. (5 marks)
(b). Describe Newcastle disease under the following sub-headings
 (i). Casual organism. (1 mark)
 (ii). Signs of attack. (5 marks)
 (iii). Control Measures. (4 marks)
(c). Explain **five** factors that determine the amount of water taken by animals in the farm. (5 marks)

SERIES 17**PAPER 1****SECTION A**

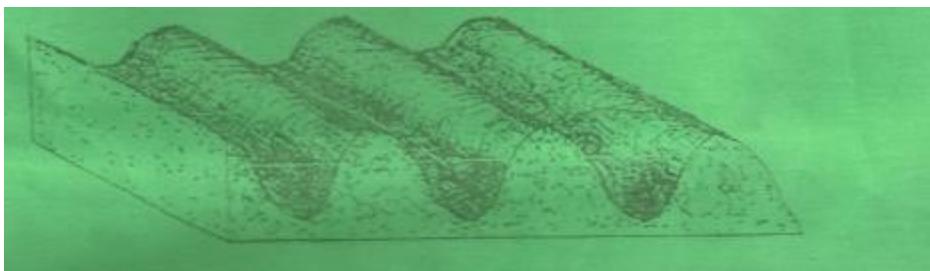
ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED.

1. State two roles of soil micro-organisms that are beneficial to plants.(1mk)
2. State two forms in which Nitrogen is available to plants.(1mk)
3. Name three negative parts that can be used to propagate pineapples.(1½mks)
4. State four factors that can increase the seed rate in crop production.(2mks)
5. State four reasons for deep ploughing during land preparation.(2mks)
6. What is meant by the following terms;
 - a. Mixed cropping.(1mk)
 - b. Mixed farming.(1mk)
7. Give two situations in which opportunity cost is equal to zero.(2mks)
8. State four qualities of crops which are used for green manure.(2mks)
9. Give four farming practices which can lead to increase in amount of light falling on leaves.(2mks)
10. State four factors which determine the stage and time of harvesting crops.(2mks)
11. Give the reason of using the following materials when preparing compost manure.
 - i. Wood ash ½mk
 - ii. Top soil ½mk
 - iii. Dung ½mk
12. State five importance of mulching in crop production .(2½mks)
13. Give four roles of trees in soil and water conservation.(2mk)
14. List down the three types of land reform which have taken place in Kenya.1½mk)
15. State three effect of excess Nitrogen in tomato production.(1½mk)
16. Name two diseases of cabbages.(1mk)
17. Give four reasons of conserving forage crops.(2mk)
18. Differentiate between the following;Top dressing and topping in pasture management. (1mk)

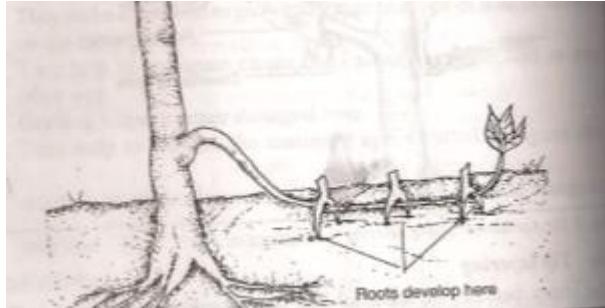
SECTION B

Answer all the questions in the spaces provided.

19. The diagram below illustrates a final seedbed after tertiary done during land preparation.



- (a) Name the tertiary operation carried out on the seedbed.(1mk)
(b) Give three reasons for carrying out the operation.(3mks)
(c) Apart from the above operation name any other tertiary operation.(1mk)
20. The following diagram represent a method of crop propagation .Study it carefully and answer the question that follows.



- a. Identify the method of propagation.(1mk)
b. What is the importance of the above method of crop propagation?(1mk)
c. State three factors which influence rooting of cutting materials in vegetative propagation.(3mks)
21. A form four student was advised to apply a compound fertilizer 30:20:10 in a cabbage plot measuring 10 m long by 5 m wide at a rate of 300kg per hectare.
- a. State the percentage of Phosphorus.(P_2O_5) .(1mk)
b. Calculate the amount of the fertilizer the student would require for the plot.(Show your working)3mks

22. The following is a photography showing maize crop growing in the field .Study it clearly and answer the question



- a. Identify the field practices which have been carried out at point A.(1mk)
b. Give three reasons as to why it is important to carry out the practices.(3mks)
c. Apart from the crop above name any other two crops which require the practices in (a) above.(2mks)

SECTION C

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

23. (a) Explain five natural factors that influence soil erosion .(10mks)

(b) State and explain five factors which may influence the spacing of crops.(10mks)

24. (a) Give five cultural methods of weed control.(5mks)

(b) Outline five ways in which pest influence agricultural production.(5mks)

(c)Describe the importance of any five nursery management practices.(5mks)

(d)(i) What is the meaning of economic injury level as it is used in pest management.(1mk)

(ii) Describe four physical measures of pest control in crop production.(4mks)

25. (a)Explain the effects of land fragmentation in agricultural production.(5mks)

b) Describe the process of gully formation.(4mks)

(c)Outline the factors influencing crop rotation.(6mks)

(d)Describe the importance of drainage in crop production.(5mks)

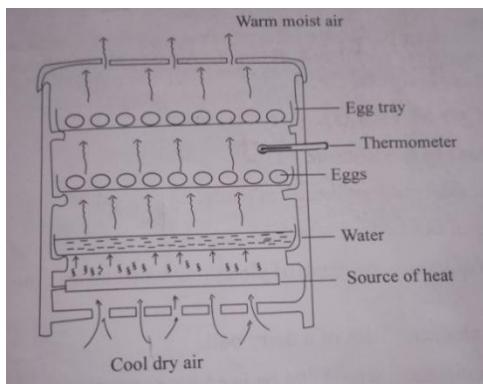
PAPER 2

SECTION A(Answer all questions in this section)

- 1.** Name four rabbits breeds reared in Kenya (2marks)
 - 2.** State four reasons why dorper breed of sheep is good for mutton production (2marks)
 - 3.** Distinguish between curative drug and prophylactic drug as used in livestock production (2marks)
 - 4.** Name two functions of the crop in the digestive system of chicken (1marks).
 - 5.** List four mineral deficiency disorders in livestock (2marks)
 - 6.** State two methods that are used in selection of breeding stock in livestock (1marks)
 - 7.** Identify two methods of extracting honey from combs (1mark)
 - 8.** Outline two ways of caponisation in poultry (1marks)
 - 9.** Differentiate between mothering ability and prolificacy (1marks)
 - 10.** List four disease of poultry that are controlled by vaccination (2marks)
 - 11.** Give four reasons for controlling livestock diseases (2marks)
 - 12.** A cow was diagnosed with the following symptoms; swollen feet, animal walking with a limping gait, lameness and pus with rotten smell oozing out of the hooves and animal spending most of time lying down.
 - a) Suggest the disease the animal was suffering from(1 mark)
 - b) Name the possible cause of the disease (1 mark)
 - c) Apart from cattle name other two farm animals attacked by the above disease (2marks)
 - d) State four control methods of the disease (2marks)
 - 13.** Give two reasons for turning eggs regularly during incubation (1 mark)
 - 14.** State four signs of broodiness in a hen (2 marks)
 - 15.** What is dry cow therapy (1mark)
16. Give the main reason for each of the following in dairy farming;
- a)Milking quickly and evenly(1 mark)
 - b) Milking at regular times (1 mark)
 - c) Complete milking (1 mark)

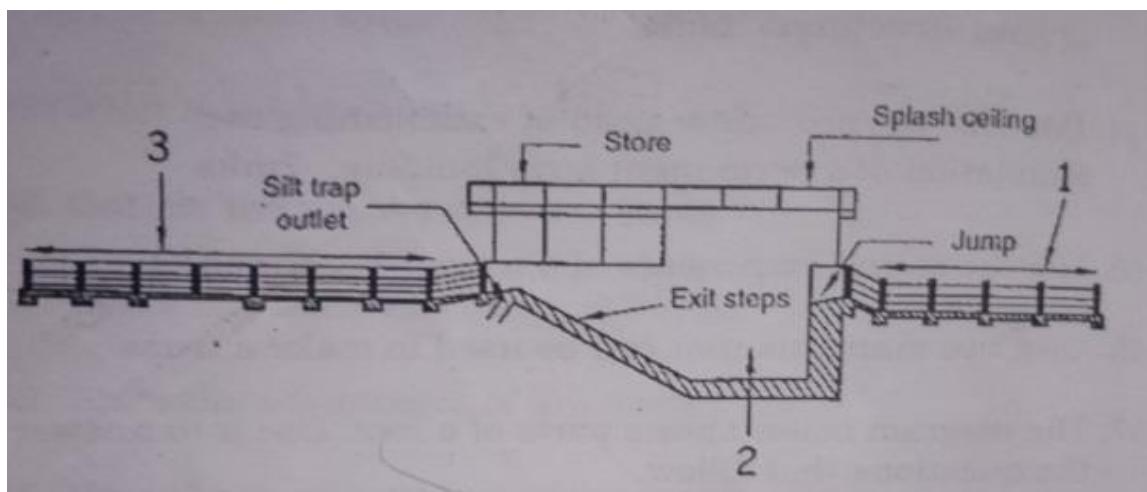
SECTION B

17. Below is an equipment used in poultry production?



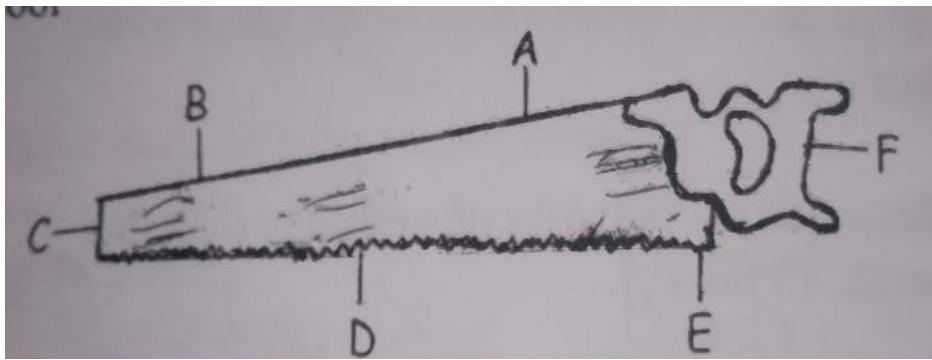
- a) Identify the structure (1 mark)
- b) State the main function of the structure (1 mark)
- c) Give the function of the following parts in the structure (3 marks)
- Water
 - Source of heat
 - Thermometer

18. The following is a type of a farm structure

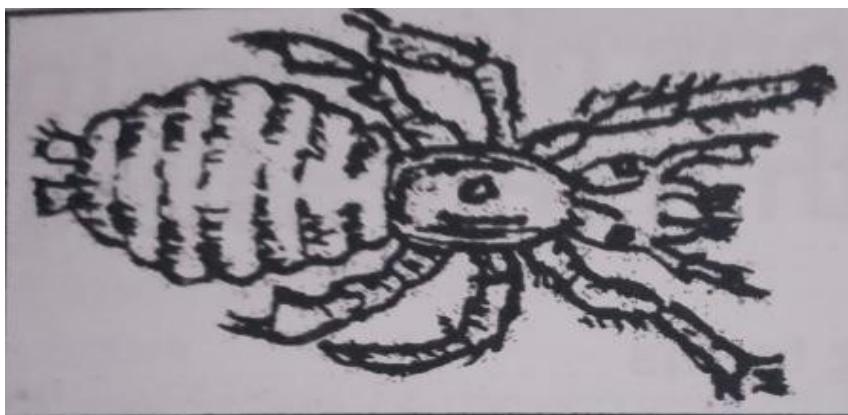


- Identify the structure (1 mark)
- Name the parts labelled I and 3 (2 marks)
- Give the uses of the parts named in (ii) above (2 marks)

19. The diagram below shows the general parts of a woodwork tool



- i. Identify the tool (1 mark)
- ii. Name the parts labeled C, D, and E(3marks)
- iii. State one maintenance practice carried out on the part labelled F(1 mark)
20. The diagram below represents an external parasite



- a .Name the parasite(1 mark)
- b. List two harmful effects of parasite shown above (2 marks)
- c. State two control measures of the parasite named in (a) above (2 marks)

SECTION C

21. a) Discuss the economic importance of parasites(10 mark)
- b) Describe the ideal body conformation of a dairy cattle (10marks)
- 22.a) Describe the causes that may lead to egg eating in poultry(5 marks)
- b) State the causes of cannibalism in poultry (5marks)
- c) Describe the management of deep litter system (10 marks)
- 23a). Describe five characteristics of goats which make them survive in the arid regions (10 marks)
- b) Discuss the management of bees under the following subheading
- Siting of an apiary (5 marks)
 - Pests and predators control (5 marks)

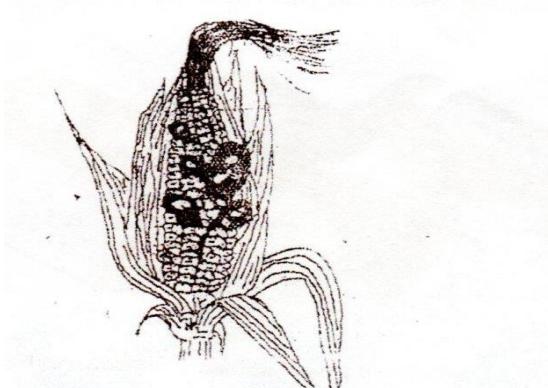
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SERIES 18**PAPER 1****SECTION A (30MKS)****Answer ALL questions in this section**

1. List three methods of treating water for use in the farm (2mks)
2. Give two examples for each of the following categories of water pipes (2mks)
 - (a) Metal pipes
 - (b) Hose pipes
3. State four disadvantages of communal land tenure system (2mks)
4. List four sites on which agro forestry trees can be established on a farm (2mks)
5. State **four** financial documents that should be kept on a farm (2mks)
6. Give four ways in which check dams control soil erosion (1mk)
7. List two methods of budding that are used in propagation of plants (1mk)
8. Give two reasons for locating a nursery bed at a well sheltered place (1mk)
9. State four ways in which burning of vegetation may lead to loss of soil fertility (2mks)
10. Give two forms in which nitrogen is absorbed from the soil by plants (1mk)
11. Why is it necessary to allow freshly cut sorgum (columbos grass) to wilt before feeding it to livestock?
(1mk)
12. Give two role of soil micro-organism that are beneficial to crops (1mk)
13. Distinguish between the terms hybrid and composite as used in maize breeding (1mk)
14. Give three reasons for growing crop under optimum temperature conditions (1 ½ mks)
15. State two harmful effects of strong wind on crop production (1mk)
16. Give two ways in which cover crop help to conserve water in the soil (1mk)
17. Give a reason for carrying out each of the following management practice on a tree nursery
(1mk)
 - (a) Pricking out (1mk)
 - (b) Root trimming (1mk)
18. Outline two ways of controlling damping off disease on vegetable seedlings in a nursery
(1mk)
19. State four effects of pest with both piercing and sucking mouth parts
on crop (2mks)
20. Name four natural factors that may influence soil erosion (1mk)
21. Give two conditions in agricultural production under which opportunity cost is zero (1mk)

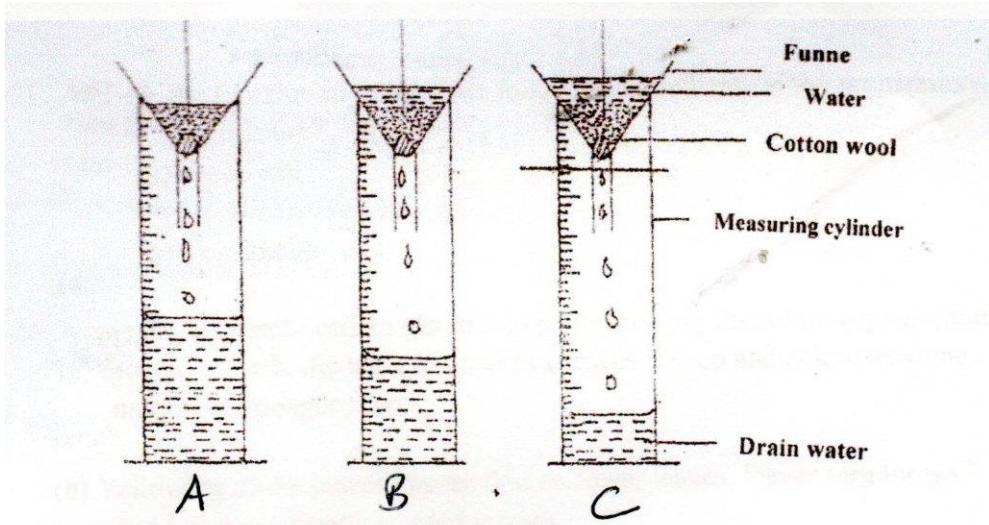
SECTION B (20MKS)**Answer all the questions in this section in the spaces provided**

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



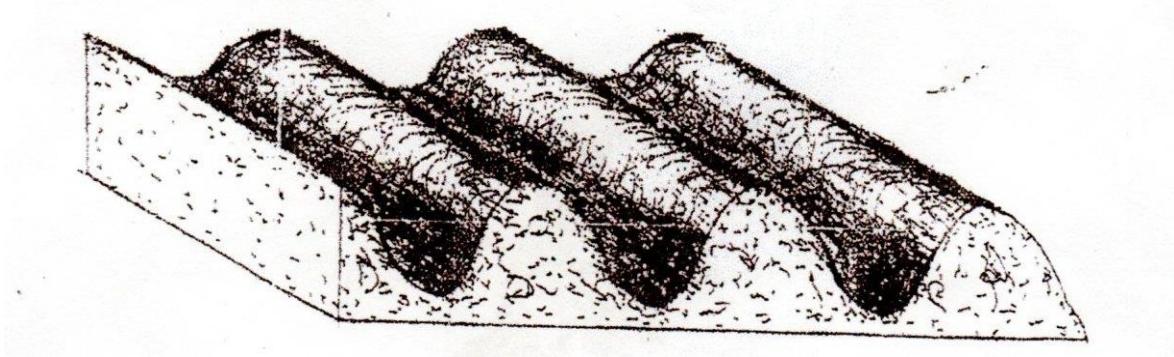
- (a) Identify the disease (1mk)
- (b) Apart from maize, give two other crops that may be attacked by the disease (1mk)
- (c) State two methods of controlling the disease (2mks)

23. The diagram below shows illustrates soil samples



- (a) State the aim of the experiment (1mk)
- (b) If the volume of water illustrated in the measuring cylinder was observed after one hour identify the soil sample labeled A and B
- (c) State two ways in which the soil structure of the sample labeled C above can be improved(2mks)

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



- (a) Name the tertiary operation carried out on the seedbed (½ mk)
(b) Describe how the tertiary operation named in one above is carried out (½ mk)
(c) Give two advantages of planting crops on a final seedbed illustrated above (2mks)

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

- (a) Wood ash (1mk)
(b) Top soil (1mk)

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

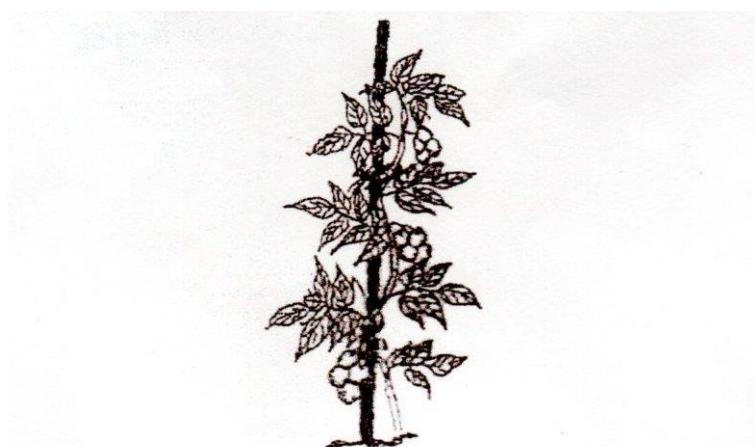
- (a) Stunted growth, die back of plant tips leaves roll up and chlorosis along margin of younger leaves (½ mk)
(b) Yellowing of the leaves appear first on lower leaves, leaves turn blown and fall prematurely, stunted growth (½ mk)
(c) Leaf curling, yellowing of leaves, tips and edges of leaves are scorched and have small mottles (½ mk)

27. Purpling of leaves, stunted growth, slender stalks and lateral buds remain dormant 2mks

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

- (i) Plucking stick (1mk)
(ii) Woven basket (1mk)

(b) The diagram below illustrates a field management practice in tomatoes. Study it carefully and answer the questions that follow



- | | | |
|------|---|-----------|
| (i) | Identify the field practice | (½ mk) |
| (ii) | State three reasons for carrying out the practice | (1 ½ mks) |

SECTION C (40MKS)

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

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

- | | | |
|-------|---|--------|
| (i) | Varieties common in Kenya | (2mks) |
| (ii) | Selection and preparation of planting materials | (3mks) |
| (iii) | Planting and weeding | (5mks) |

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

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

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

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

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

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

PAPER 2**SECTION A (30 MKS)**

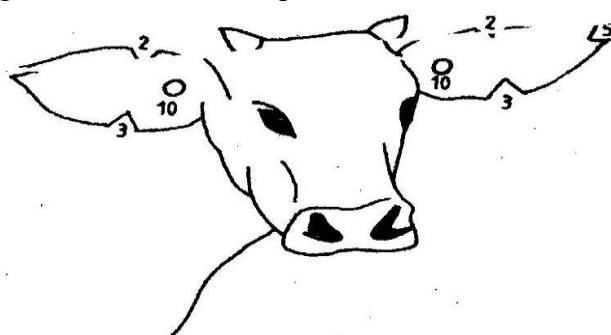
Answer all the questions in this section in the spaces provided

1. State four ways of controlling lice in poultry (2mks)
2. State three signs of heat observed in rabbits (1 ½ mks)
3. Name three methods of extracting honey from combs (1 ½ mks)
4. State three signs of broodiness in a hen (1 ½ mks)
5. Give the main reason for each of the following in dairy farming (1 ½ mks)
 - (a) Milking quickly and evenly
 - (b) Milking at regular times
 - (c) Complete milking
6. State four factors that stimulates milk let-down in a lactating cow (2mks)
7. State four signs of infestation by external parasites in goats (2mks)
8. Give four disadvantages of in-breeding in livestock production (2mks)
9. State four advantages of fish farming in Kenya (2mks)
10. Give two reasons for castration in piglets (1mk)
11. Name two practices that are carried out on eggs in preparation for marketing (1mk)
12. State two precautions that should be observed when shearing sheep to ensure production of high quality wool (1mk)
13. Name four parts of a farm building that can be reinforced using concrete (2mks)
14. State two factors that can affect digestibility of a feed stuff in livestock (2mks)
15. State two causes of soft shelled eggs (1mk)
16. Give four characteristics of a good site for a fish pond (2mks)
17. State four disadvantages of fold system in poultry rearing (2mks)
18. Name four methods of docking in sheep rearing (2mks)

SECTION B (20MKS)

Answer all the questions in this section in the spaces provided

19. (a) The diagram below illustrates a method of identification in livestock production. Study the diagram and answer the questions that follow.



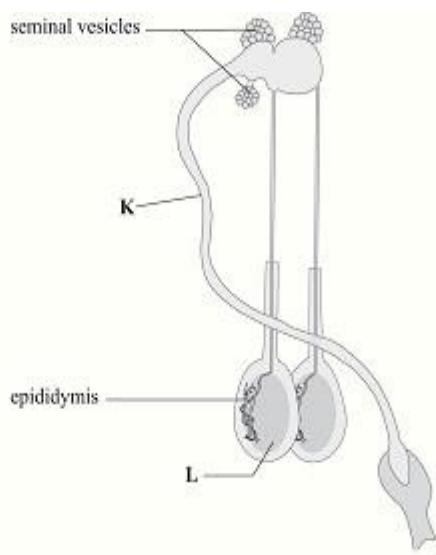
- (i) Name the type of identification illustrated above (1mk)
(ii) Give the identification number of the animal illustrated in the diagram above (1mk)
(iii) Using diagrams illustrate how you can identify animals Nos 24 and 36 using the above method (2mks)

Animal No 24

Animal No 36

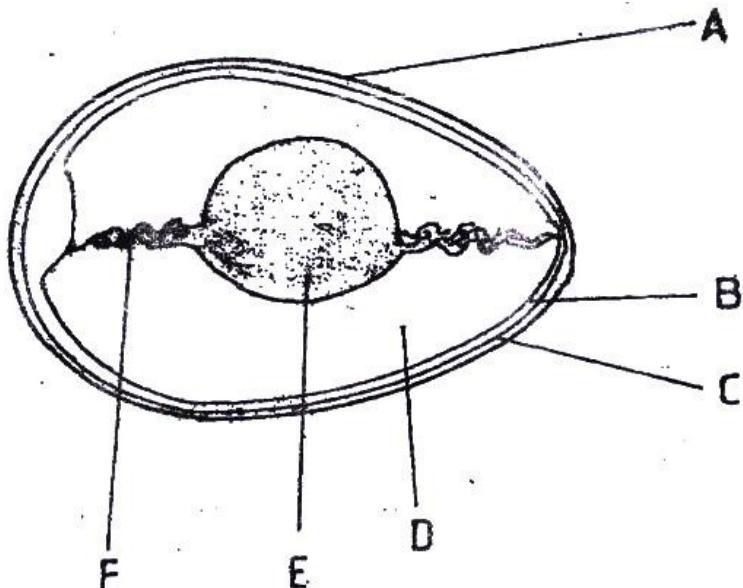
- (b) If a sow was successfully served on 27th September, 2006, state the date she is likely to have farrowed (1mk)

20. Below is a diagram illustrating the reproduction system of a bull. Study it and answer the questions that follow.



- (a) Identify the parts labeled
K (1mk)
L (1mk)
- (b) State the functions of the part labeled
(i) Epididymis (1mk)
(ii) Seminal vesicles (1mk)

21. The diagram below is an illustration of an egg. Study it and carefully answer the questions that follow.



(a) Name the parts labeled B C D and F

B (½ mk)

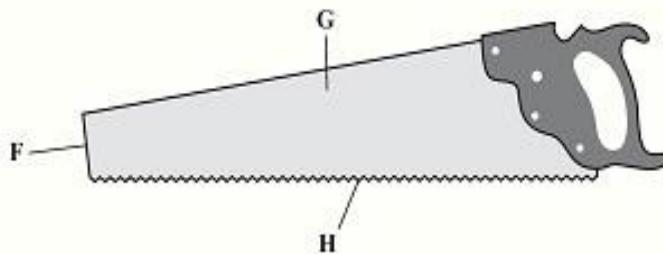
C (½ mk)

D (½ mk)

F (½ mk)

(b) State one quality of the part labeled A that should be considered when selecting eggs for incubation (1mk)

22. The following is an illustration of a handsaw. Study it carefully and answer the questions that follow.



(a) Name the parts labeled

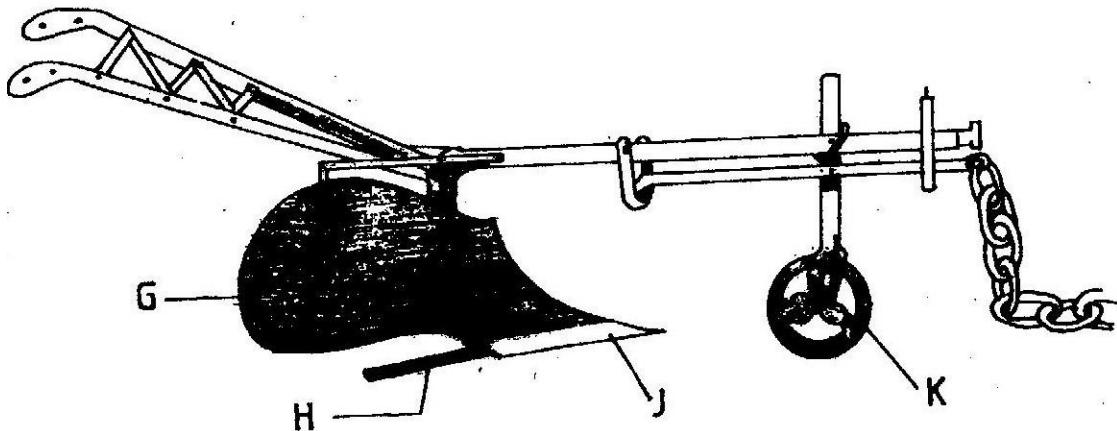
F(1mk)

G(1mk)

(b) Explain three maintenance practices that should be carried out on the part labeled H (3mks)

.....
.....

23. The diagram below shows a farm implement. Study it and answer the questions that follow



- (a) Identify the farm implement illustrated above (1mk)
(b) Name the parts labeled G H J and K (2mks)
(c) State four functions of the farm implement illustrated above (2mk)

SECTION C (40 Marks)

Answer any two questions in the spaces provided after question 26

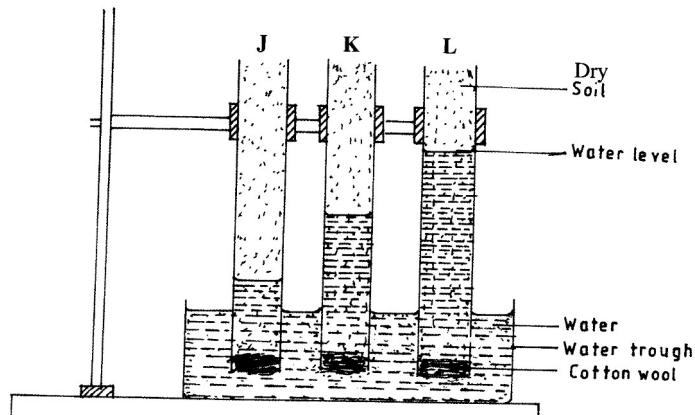
24. (a) Describe the advantages the battery system of rearing layers (10mks)
(b) Outline the factors to consider when selecting livestock for breeding (10mks)
25. (a) Name the strokes in a four stroke engine and describe how each operates (12 mks)
(b) Describe the functions of the gear box in a tractor (8mks)
26. (a) Name and describe the features of an ideal calf pen (9mks)
(b) Discuss pneumonia in calves under the following sub-headings
(i) Predisposing factors (3mks)
(ii) Symptoms (5mks)
(iii) Control measures (3mks)

SERIES 19**PAPER 1****SECTION A (40 MARKS)****ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED**

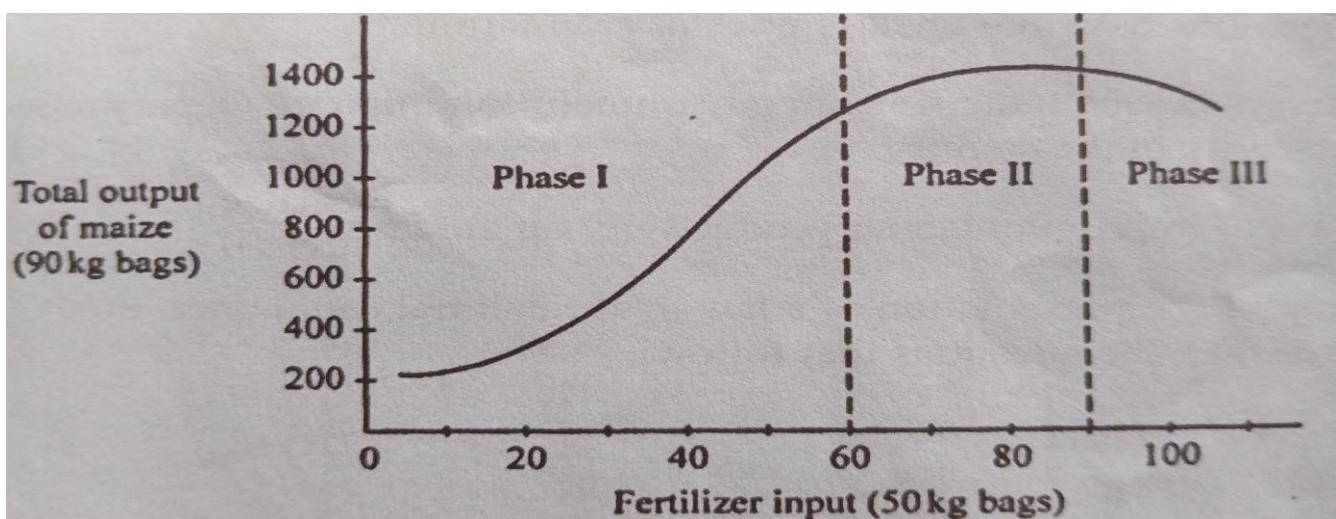
1. Name three forms of horticulture practiced in Kenya. (1 ½ mks)
2. State three disadvantages of small scale farming (1 ½ mks)
3. a). State four reasons for land preparation (2 mks)
b). Name two implements that can be used to carry out sub – soiling (1mk)
4. State four ideal characteristics of plant used to make green manure. (2 mks)
- 5 a). What is opportunity cost (1mk)
b). Give three instances when opportunity cost does not exist (1 ½ mks)
6. Give four reasons why farmers may choose seeds over vegetative materials during planting (2 mks)
7. Outline four ways of controlling damping off disease on vegetable seedling in a nursery (2 mks)
8. State four management practices in intensive hedge grow agroforestry (2 mks)
9. Name four types of market structures in agricultural marketing (2 mks)
10. State two limitations of tissue culture in crop production. (2 mks)
11. Differentiate between the following terms
 - i. Over – sowing and undersowing (2 mks)
 - ii. Seed dressing and seed inoculation (2 mks)
12. State four practices carried out during harvesting of beans (2 mks)
13. Name three biological weed control methods (1 ½ mks)
14. State four parameters that can be used to measure the economic development of a country(2 mks)

SECTION B (20 MARKS)**ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED**

15. The diagram below illustrates an investigation on a property of soil samples labelled J, K & L



- a). If the levels of water shown in the diagram were observed after three hours, name the property of soil being investigated. (1 mk)
- b). What is the relationship between the soil property named in (a) above and the size of soil particles? (1 mk)
- c). Which soil sample would be suitable for growing paddy rice. (1 mk)
- d). Give two characteristics of soil J (2 mks)
16. a). Distinguish between straight and compound fertilizer (1 mk)
- b). A farmer applied 200kg of CAN (21%N) and DSP 150kg (40% P₂O₅) per hectare on his five hectares maize crop. Calculate the amount of Nitrogen and phosphorus the farmer applied on his crop. Show your working (4 mks)
17. Below is a graphical representation of a law in agricultural economics. Study the graph carefully and answer the questions that follow.



- a). Identify the law illustrated by the graph. (1 mk)
- b). Explain how each additional unit of fertilizer input relates to the total output of maize in phases II and III. (1 mk)
- c). State the importance of the law identified in (i) above to the maize farmer. (1 mk)
- d). Name the irrational phase of operation (1 mk)

18. The diagram below shows a method of budding



- a). Identify the method of budding
- b). Name two other methods of budding apart from one illustrated (2 mks)
- c). Give two advantages of budding in crop production

SECTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS IN THE SPACES PROVIDED

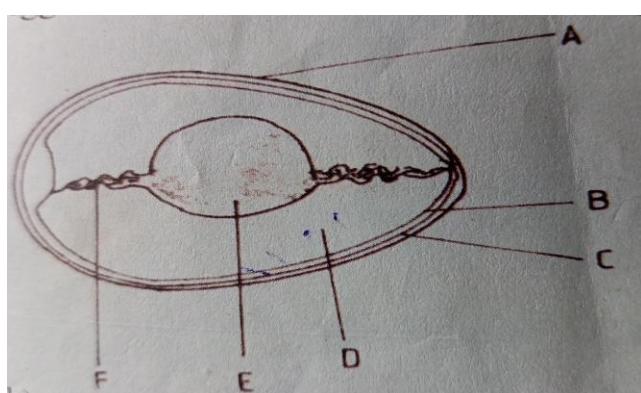
- 19. a). Describe five biotic factors that influence agricultural production (5 mks)
 - b). Explain five reasons for draining water – logged soils (5 mks)
 - c). Explain four factors considered when selecting planting materials (4 mks)
 - d). Describe the harvesting of tea (6 mks)
- 20. a). Give five reasons why late defoliation is discouraged in pasture utilization (5 mks)
 - b). Describe ten harmful effects of crop pests (10 mks)
 - c). Describe five methods used in water harvesting (5 mks)
- 21. a). Describe five post – harvesting management practices carried out on various crops (10 mks)
 - b). Discuss carrots production under the following sub – headings
 - i). Field management practices (3 mks)
 - ii. Land preparation (3 mks)
 - c). State four advantages of communal land tenure system (4 mks)

PAPER 2**SECTION A (30 MARKS)****ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED**

1. State four reasons for maintaining farm tools and equipment (2 mks)
2. Give the meaning of the following terms as used in livestock health
 - a). Predisposing factor (1 mk)
 - b). Incubation period (1 mk)
3. State four practices that come immediately after complete milking in a milking shed. (2 mks)
4. List four preventive measures of livestock diseases (2 mks)
5. List four materials that can be used in construction of Kenya Top Bar Hive (2mks)
6. State two control measures of keds in sheep (1 mk)
7. State the functional difference between the following
 - a). Cross cut saw and rip saw (1 mk)
 - b). Wood chisel and cold chisel (1 mk)
8. State four microbial activities that occur in the rumen (2 mks)
9. Name four beef cattle breeds (2 mks)
10. Give four signs of heat in cattle (2 mks)
11. Name four notifiable diseases of livestock (2 mks)
12. State four signs of stress in a flock of chicken (2 mks)
13. State four advantages of a two – stroke cycle engine (2 mks)
14. State four conditions that causes swarming in bees (2 mks)
15. State four visible symptoms of round worm infestation in cattle (2 mks)
16. Differentiate between a broiler and a capon (1 mk)

SECTION B 20 MARKS)**ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED**

17. The diagram below is an illustration of an egg. Study it carefully and answer the questions that follow.



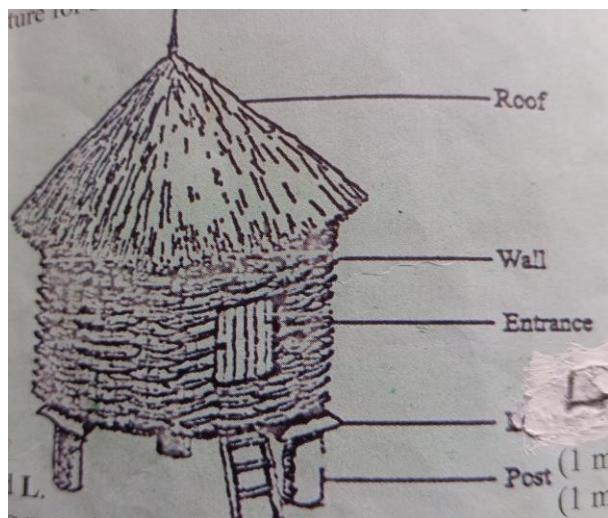
- a). Name the parts labelled B, C, D and F (2 mks)
- b). State two qualities of the part labelled A that should be considered when selecting eggs for incubation (2 mks)
- c). What is the function of the part labelled E in a fertilized egg? (1 mk)

18. The diagram below illustrates an external parasite of livestock



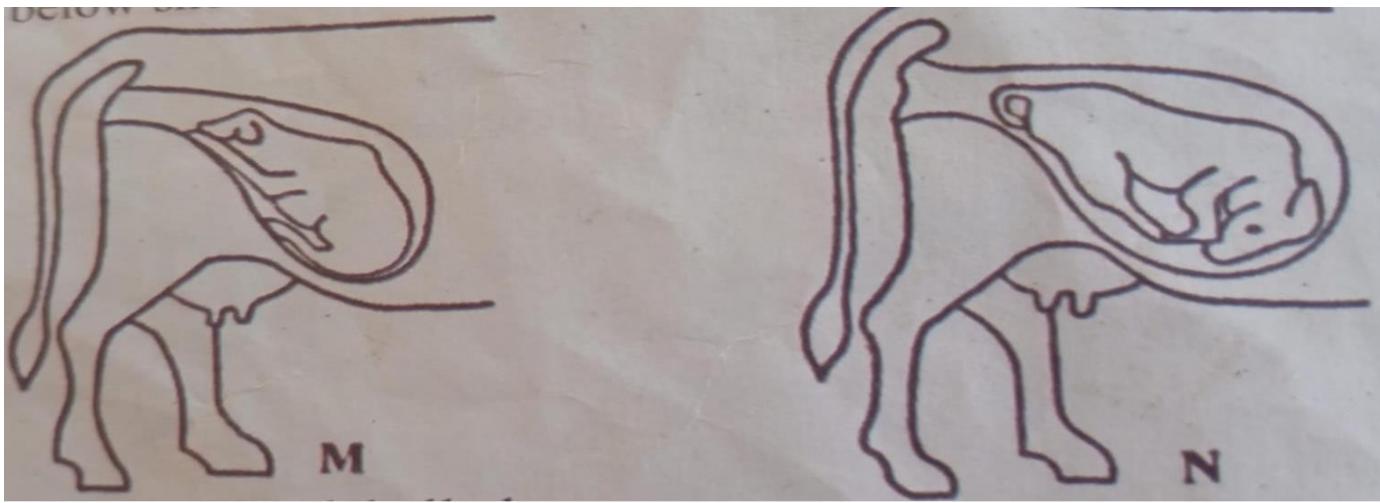
- a). Identify the parasite (1 mk)
- b). Apart from eggs and adults, name two other developmental stages of the parasite illustrated above. (1 mk)
- c). Name two livestock diseases transmitted by the illustrated parasite (1 mk)
- d) Explain two ways in which the environment is altered to control the parasite illustrated above (2 mk)

19. The diagram below shows a farm structure for storing grains



- a). Identify the farm structure (1 mk)
- b). State the function of the part labelled L (1 mk)
- c). State one disadvantage of the roofing material used on the farm structure (1 mk)
- d). State two ways in which the structure is made ready for grain storage (2 mks)

20. The diagram below shows a calf presentation during parturition



- a). Name the presentation labelled M and N
 b). Which one of the presentations requires the services of a qualified stockman (1 mks)
 c). State two signs of parturition observed on the vulva (2 mks)

SECTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS IN THE SPACES PROVIDED

21. a). Describe milk fever disease under each of the following sub – headings
- Cause (1 mks)
 - Animal attacked (1 mks)
 - Symptoms of infection (5 mks)
 - Control measures (3 mks)
- b). Explain the management practices that a farmer should carryout to improve milk production in a low yielding herd of dairy cattle under the following sub – headings. (10 mks)
- Selection (2 mks)
 - Parasite and disease control (2 mks)
 - Feeding (2 mks)
 - Housing (2 mks)
 - General management practices (2 mks)
22. a). Describe the working mechanism of a four – stroke cycle engine. (10 mks)
 b). Explain five factors that should be considered when siting a farm store (5 mks)
 c). State five differences between ruminant and non – ruminant digestive systems (5 mks)
- 23.a) Describe the management of one day old chicks in a brooder until they are eight weeks old (layer chicks) (12 mks)
- b). i) Name four milk products (2 mks)
 ii). Explain six problems affecting the marketing of milk in Kenya (6 mks)

SECTION A (30Marks)

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

1. State four biotic factors that are beneficial to farmers. (2marks)

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2. Name four sites for agroforestry trees on the farm. (2marks)

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3. State four conditions that make shifting cultivation practicable. (2marks)

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4. Give four roles of mulching in soil and water conservation. (2marks)

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5. State four pieces of information contained in a land title deed. (2marks)

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6. Name;

- a. Two types of pipes used to convey water on the farm (1mark)

.....
.....

- b. Two methods of collecting and storing water on the farm (2marks)

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.....

7. State four methods of improving labour productivity on the farm (2marks)

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8. State four farming practices that farmers use to increase the amount of light absorbed by crops (2marks)

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9. Name four methods of applying fertilizers on the farm (2marks)

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10. Name ONE crop propagated using each of the following vegetative propagation materials

(2marks)

- a. Stem tubers
- b. Stem cuttings
- c. Bulbils
- d. Crowns

11. State FOUR advantages of ridging in crop production (2marks)

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12. State FOUR reasons for top dressing in pasture management. (2marks)

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13. Calculate the plant population in a field of tobacco measuring 180m by 120m planted at a

spacing of 180cm by 60cm at the rate of one seed per hole

(2marks)

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14. (a) Name two financial books prepared by farmers (1mark)

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(b) State two methods of controlling damping off disease in vegetables

(1mark)

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15. Name four factors that influences soil formation

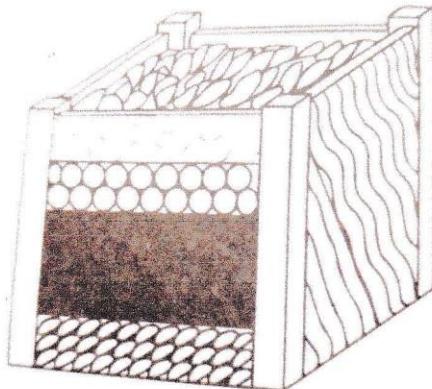
(2marks)

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SECTION B (20marks)

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

16. Below is an illustration of a farm structure used for decomposing plant materials.



(a) Identify the structure.

(1mark)

.....

(b) Give a reason for carrying out each of the following practices on the structure

(i) Turning the materials in the structure occasionally.

(1mark)

.....

(ii) Driving a long sharp stick into the pile at an angle.

(1mark)

.....

.....

(iii) Describe the procedure of setting up the structure before the plant materials are piled inside it (3marks)

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16. Below are illustrations of some common weeds labeled A and B.



(a) Identify the weeds. (2marks)

A:

B:

(b) State any one harmful effect for each of the weeds shown. (2marks)

A.....
.....

B.....
.....

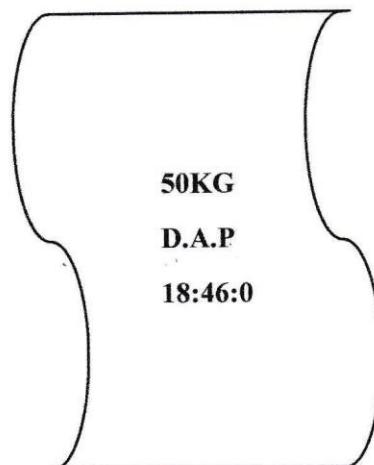
(c) State the class of the weeds based on plant morphology. (1 mark)

(d) What is a noxious weed?

(1 mark)

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18. The diagram below illustrates a bag of fertilizer bought by a farmer from the market



a) What does the figure 46 represent?

(1mark)

b) Calculate the amount of nitrogen in kilograms contained in the bag of fertilizer (show your working)

(3marks)

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19. The table below shows a type of record to be prepared by a poultry farmer

COMMODITY

date	Amount sold	Price per unit	Total value	remarks

a) Name the type of record illustrated

(1mark)

.....

- b) Name the two types of labour records. (2marks)

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- c) A poultry farmer sold 10 crates of eggs in the month of May at a price of 360 shillings per crate. Calculate the total revenue (1mark)

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SECTION C (40MKS)

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

20. a) Describe six reasons for pruning in coffee (6marks)
b) Give eight factors that a maize farmer should consider when drawing up a farm plan (8marks)
c) Explain six factors that may increase mass wasting on the farm (6marks)
21. a) Outline any six physical methods of controlling crop pests (6marks)
b) Describe the production of beans for seeds under the following sub headings
i. Planting (4marks)
ii. Harvesting (4marks)
- 6) Explain 3 roles of agricultural based women groups (3marks)
d) State 3 roles of phosphorous in crop growth (3marks)
22. a) Explain SIX advantages of grafting as a method of vegetative propagation (4marks)
b) In the year 2010 Mr. Onyango's farm bought concentrates at Ksh. 5500, seeds at ksh. 4500, fertilizer at ksh. 7000, fuel at ksh. 2000 and disc harrow at ksh. 175000. The farmer sold wheat to millers for ksh. 120000, cabbages for ksh. 40000, milk for ksh. 30000, poles to a sawmill for ksh. 25000. The opening valuation was ksh. 150000 and the closing valuation was ksh. 250000.
i. Prepare a profit and loss account for the Onyango's farm for the year ending 2010 (7marks)
ii. Did the farm make a profit or loss, calculate the value (1mark)
c) Outline any six management practices that a farmer should carry out on a tomato nursery bed (6marks)

PAPER 2

SECTION A (30Marks)

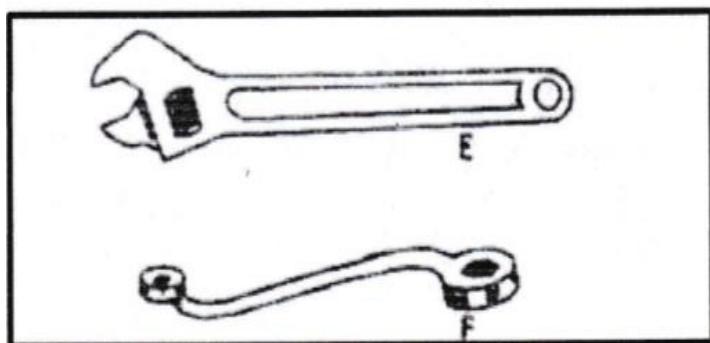
(Answer all questions from this section)

- 1) State two functions of a dip tank shelter in a plunge dip (1 mk)
- 2) Give four factors that influence amount of water taken by an animal (2mks)
- 3) State four examples of diseases caused by bacteria in livestock (2mks)
- 4) State four factors considered when selecting eggs for marketing (2mks)
- 5) Name four beef cattle breeds (2mks)
- 6) State the colour of each of the following dairy cattle breeds (2mks)
 - a) Friesian.
 - b) Ayrshire.
- 7) State four advantages of inbreeding system (2mks)
- 8) State four reasons for castration in livestock production (2mks)
- 9) List down four harmful effects of ticks in livestock (2mks)
- 10) Give four signs of heat in cattle (2mks)
- 11) Name two types of roughages (1 mk)
- 12) State four reasons for maintaining farm tools and equipment (2mks)
- 13) State four reasons why a calf should be fed on colostrum (2mks)
- 14) State four functions of vitamins in livestock (2mks)
- 15) Name four systems of a tractor engine (2mks)
- 16) List four methods used in preserving fish (2mks)

SECTION B (20Marks)

Answer all the questions from this section

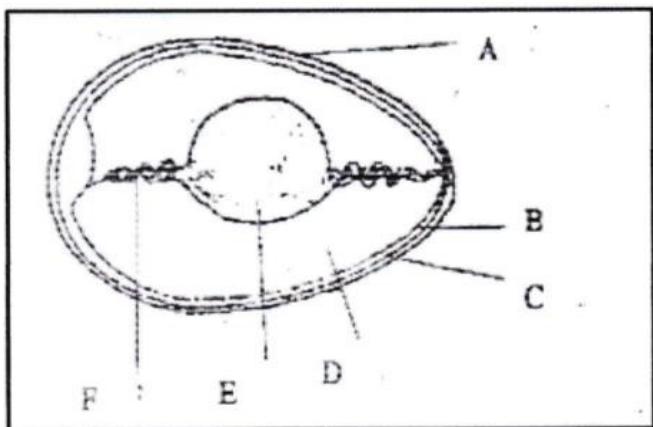
17. A dairy farmer is required to prepare 100kgs of dairy meal containing 20% DCP (Digestible crude protein). using the Pearson's square method, calculate the quantity of soya beans 40% DCP and rice 16% DCP the farmer requires for the dairy meal.
18. The following diagrams illustrate some workshop tools. Study them carefully and answer the question that follows.



- a) Identify the tools labelled E and F (2mks)
- b) State the functional advantage of tool E, has over tool F. (1mk)

c) State two maintenances practice carried out on tool E' (2mks)

19. Study the diagram below of an egg and use it to answer the questions that follow.

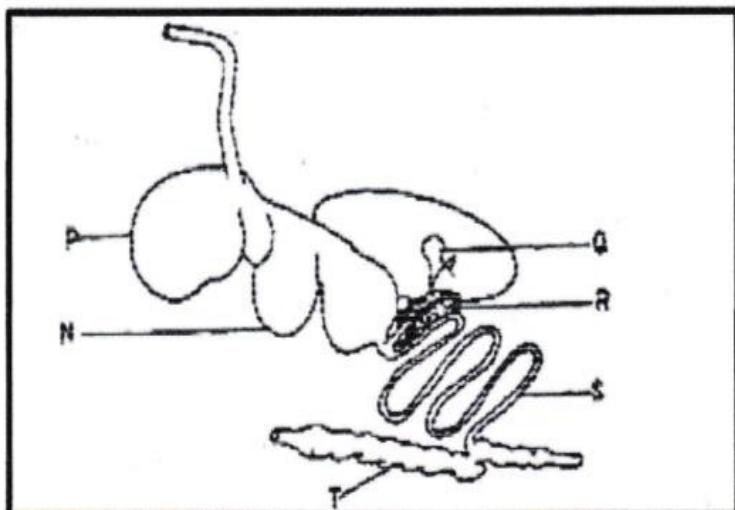


a) Name the parts labelled B, C, D, and F (2mks)

b) List any Two structural qualities of an egg to be incubated (2mks)

c) Give functions of part labelled E, in a fertilized egg (1mk)

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



a) Name the parts labelled N,P,R and Q (2mks)

b) List three microbial activities that take place in part labelled P. (3mks)

SECTION C (40MARKS)

Answer any two questions from this section)

21. (a) Describe new cattle diseases under the following sub-headings

- i. Causal organism (1 mk)
- ii. Symptoms of attack (6mks)
- iii. Control measures (3mks)

- (b) State five signs of parturition in a cow (5mks)
- (c) Describe the uses of five equipment required for hand milking (5mks)
- 22.(a)Outline any eight-control measure of ticks (8mks)
- (b) Outline the daily maintenance practices that should be carried out on a farm tractor. (12mks)

- 23.(a)Describe the management practices carried out in rearing of day-old chicks to eight weeks using a brooder. (10mks).
- (b) Describe five factors to consider when siting the fish pond in the farm (5mks)
- (c) State the functions of any parts of zero grazing unit in dairy farming (5mks)