

4.8.1 Agriculture Paper 1 (443/1)

SECTION A (30 marks)

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

1. State **two** ways in which the foreign exchange earned from agriculture is important to Kenya. (1 mark)
2. State **four** effects of excessive nitrogenous fertiliser application on tomatoes. (2 marks)
3. State **four** ways in which burning during clearing of land reduces soil fertility. (2 marks)
4. State **four** ways in which water pollution caused by farming activities can be controlled. (2 marks)
5. What is meant by the term preference and choice as used in agricultural economics? (2 marks)
6. State **four** disadvantages of shifting cultivation. (2 marks)
7. Name **four** categories of nursery beds. (2 marks)
8. (a) What is meant by the term conveyance of water? (1 mark)  
(b) State **two** ways of conveying water. (1 mark)
9. (a) What is meant by the term land tenure reform? (1 mark)  
(b) State **four** advantages of land registration. (2 marks)
10. Name **four** types of landslides. (2 marks)
11. State **four** advantages of small scale farming in Kenya. (2 marks)
12. State **four** disadvantages of stall feeding. (2 marks)
13. Give **four** reasons why livestock farmers prepare silage. (2 marks)
14. State **four** reasons for carrying out minimum tillage. (2 marks)
15. Name **four** financial documents used in farm accounting. (2 marks)



SECTION B (20 marks)

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

16. The diagrams below show certain weeds.



- (a) Identify the weeds labelled F and G.

F ..... (1 mark)

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G ..... (1 mark)

- (b) State **one** way in which each of the weeds labelled E and F affects the quality of livestock products. (1 mark)

E .....

.....

F .....

.....

(1 mark)

- (c) State the **main** way in which the weed labelled G interferes with farm operations. (1 mark)

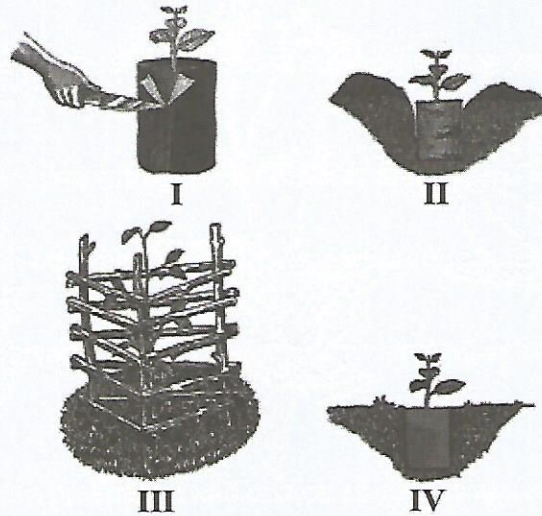
17. (a) An agronomist recommends application of 120kg N, 60kg  $P_2O_5$  and 80 kg  $K_2O$  after testing a soil sample. Calculate the amount of urea (46%N), single super phosphate (20%  $P_2O_5$ ) and potassium chloride (50%  $K_2O$ ) that should be applied on the land. (4 marks)

- (b) Distinguish between fertiliser ratio and fertiliser grade. (1 mark)

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18. A farmer has a piece of land 200 m long and 36 m wide. If the farmer plants beans at a spacing of  $30 \text{ cm} \times 15 \text{ cm}$ , calculate the plant population on the piece of land. Show your working. (5 marks)
19. The diagram below shows a practice in agroforestry.



- (a) Identify the practice. (1 mark)

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- (b) State the importance of the activity labelled:

I ..... (1 mark)

IV ..... (1 mark)

- (c) Why was the soil separated as shown in the activity labelled II? (1 mark)

- (d) State the **main** precaution observed when covering the seedling as illustrated in III. (1 mark)



SECTION C (40 marks)

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

20. (a) Describe **seven** ways in which a farm manager can provide incentives to increase the productivity of the farm workers. (7 marks)
- (b) Describe Blossom End Rot disease in tomatoes under each of the following sub-headings:
- (i) symptoms (1 mark)
  - (ii) causes (3 marks)
  - (iii) control measures. (3 marks)
- (c) Describe how a farmer should handle a bean crop from the time it is harvested until the dry seed is ready for storage. (6 marks)
21. (a) Give **two** effects of low temperature on crop growth. (2 marks)
- (b) Explain **four** aspects of rainfall that a farmer should consider when choosing a crop to grow. (8 marks)
- (c) Describe **five** types of layering used by farmers to propagate crops. (5 marks)
- (d) Give **five** functions of agricultural marketing boards in Kenya. (5 marks)
22. (a) Describe rice production under each of the following sub-headings:
- (i) land preparation (3 marks)
  - (ii) water control (3 marks)
  - (iii) weed control. (2 marks)
- (b) Describe millet production under each of the following sub-headings:
- (i) seedbed preparation (2 marks)
  - (ii) planting (2 marks)
  - (iii) harvesting. (3 marks)



SECTION A (30 marks)

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

1. Give **four** maintenance practices carried out on a knapsack sprayer. (2 marks)
2. State **four** reasons why rabbits are kept by farmers in Kenya. (2 marks)
3. State **four** maintenance practices carried out on a piggery unit. (2 marks)
4. Name the **four** stomach compartments of a ruminant. (2 marks)
5. State **four** causes of stress in poultry. (2 marks)
6. Give **one** reason why the milkman should:
  - (a) milk at regular intervals ( $\frac{1}{2}$  mark)
  - (b) avoid milking with wet hands ( $\frac{1}{2}$  mark)
  - (c) milk quickly and evenly ( $\frac{1}{2}$  mark)
  - (d) practice complete milking ( $\frac{1}{2}$  mark)
7. State **four** factors that determine the amount of feed an animal consumes. (2 marks)
8. Give **one** use of each of the following farm tools:
  - (a) pipe wrench ( $\frac{1}{2}$  mark)
  - (b) tenon saw ( $\frac{1}{2}$  mark)
  - (c) spoke shave ( $\frac{1}{2}$  mark)
  - (d) elastrator. ( $\frac{1}{2}$  mark)
9. State **four** control measures for *Brucellosis* in cattle. (2 marks)
10. (a) Give **two** roles of wood shavings used as litter in the artificial brooder. (1 mark)  
(b) Give **two** reasons why a chicken brooder should have a round shape. (1 mark)

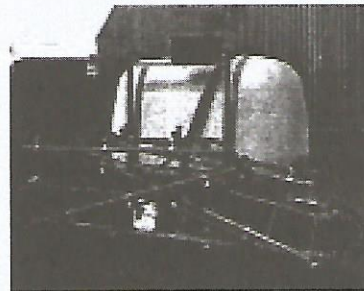


11. Name **four** parts of the ignition system of a petrol engine. (2 marks)
12. (a) State **two** signs that show a rabbit is about to give birth. (1 mark)
- (b) If a doe was served on 7th March 2021, determine the date it gave birth. ( $\frac{1}{2}$  mark)
- (c) What is the name given to the young one of a rabbit? ( $\frac{1}{2}$  mark)
13. State **four** advantages of artificial calf feeding. (2 marks)
14. Give **four** characteristics of clean milk. (2 marks)
15. (a) Name **two** methods of service used in livestock breeding. (1 mark)
- (b) Name **two** cattle diseases controlled through Government-imposed quarantine in Kenya. (1 mark)

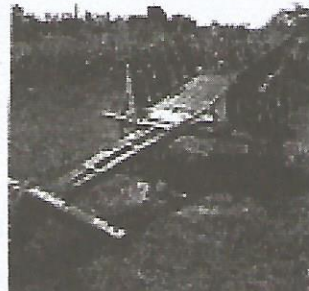
**SECTION B (20 marks)**

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

16. The diagrams **R** and **S** show farm implements.



**R**



**S**

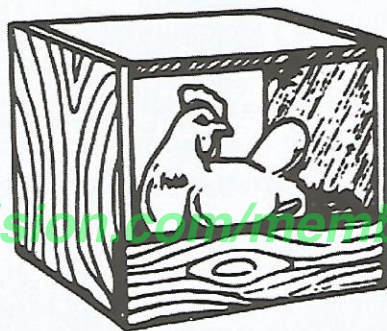
- (a) Name the source of power used to operate the farm implement labelled:
- R** (1 mark)
- S** (1 mark)
- (b) State the means by which the farm implement labelled **S** is attached to its source of power. (1 mark)
- (c) Give **two** maintenance practices carried out on the implement labelled **R**. (2 marks)



17. The diagram below shows a parasite commonly observed on sheep.



- (a) Identify the parasite. (1 mark)
- (b) State **four** harmful effects of the parasite in sheep rearing. (4 marks)
18. The diagram below shows a method of incubation in poultry rearing.



- (a) Identify the method of incubation shown above. (1 mark)
- (b) State **four** advantages of the method of incubation shown in Question 18. (4 marks)
19. A poultry farmer wants to prepare 200 kilograms of chick mash containing 20% Digestible Crude Protein (DCP). Calculate the amount of maize (10% DCP) and fish meal (60% DCP) the farmer requires to make the chick mash. Use the Pearson's square method and show your working. (5 marks)



SECTION C (40 marks)

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

20. (a) Describe calf scours under the following subheadings:
- (i) causal organism. (1 mark)
  - (ii) predisposing factors. (3 marks)
  - (iii) control measures. (4 marks)
- (b) Describe the rearing of day-old layer chicks up to the age of eight weeks. (12 marks)
21. (a) Describe milk secretion in a dairy cow. (5 marks)
- (b) Describe **six** factors that are considered when selecting a gilt for breeding. (6 marks)
- (c) Give **nine** reasons why the battery cage system of rearing is popularly used by large scale poultry farmers. (9 marks)
22. (a) Describe **five** management practices carried out on a fish pond. (5 marks)
- (b) (i) Give **five** reasons for farm mechanisation. (5 marks)
- (ii) Describe **six** symptoms observed on a calf heavily infested with internal parasites. (6 marks)
- (c) Give **four** routine rearing practices in the handling of livestock. (4 marks)