

3.15 AGRICULTURE (443)

3.15.1 Agriculture Paper 1 (443/1)

SECTION A (30 marks)

Answer *all* the questions in the spaces provided.

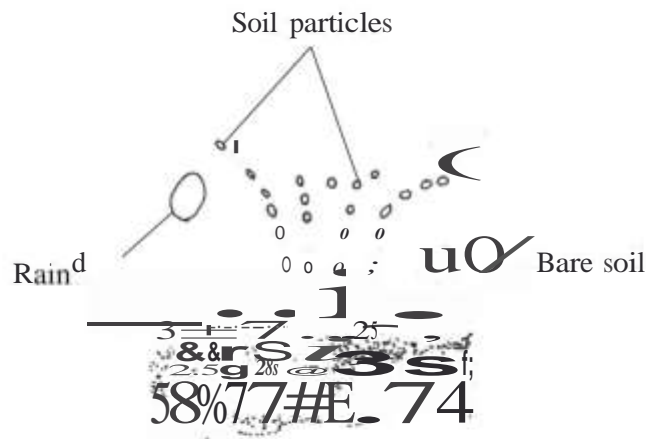
- 1 State **four** advantages of organic farming. (2 marks)
- 2 Give **four** factors that can increase seed rates in crop production. (2 marks)
- 3 State **four** roles of organic matter in sandy soils. (2 marks)
- 4 Give **four** reasons for practising minimum tillage. (2 marks)
- 5 What is meant by 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. (1} marks)
(b) State **three** disadvantages of vegetatively propagating pineapples. (15 marks)
- 9 Name **three** sources of underground water. (13 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. (2} marks)
- 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)

Answer **all** the questions 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 labelled **A** and **B**.



A



B

- (a) Identify the weed labelled A. (1 mark)

A

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

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

Table 1: Prices and quantities of tomatoes supplied.

Tomatoes (kg)	Price per kg (Kshs.)
150	16.00
130	14.20
125	13.80
112	13.00
106	12.70
85	11.80
50	10.60
42	10.40
30	10.20
25	10.10

Table 2: Prices and quantities of tomatoes demanded.

Tomatoes (kg)	Price per kg (Kshs.)
80	18.00
87	16.70
101	15.50
119	14.10
135	13.20
155	12.40
171	11.80
185	11.30
191	11.10
205	10.80

- (i) Using the above data, plot supply and demand curves on the same axes. The axes have been labelled for you. (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)

3.15.2 Agriculture Paper 2 (443/2)

SECTION A (30 marks)

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

- 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; (3 mark)
(ii) wire strainer. (3 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; (k mark)
(ii) hand drill. (3 mark)
- 6 Name **two** livestock diseases controlled through embryo transplant. (1 mark)
- 7 State **three** factors that limit external parasite control in Kenya. (15 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. (15 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)

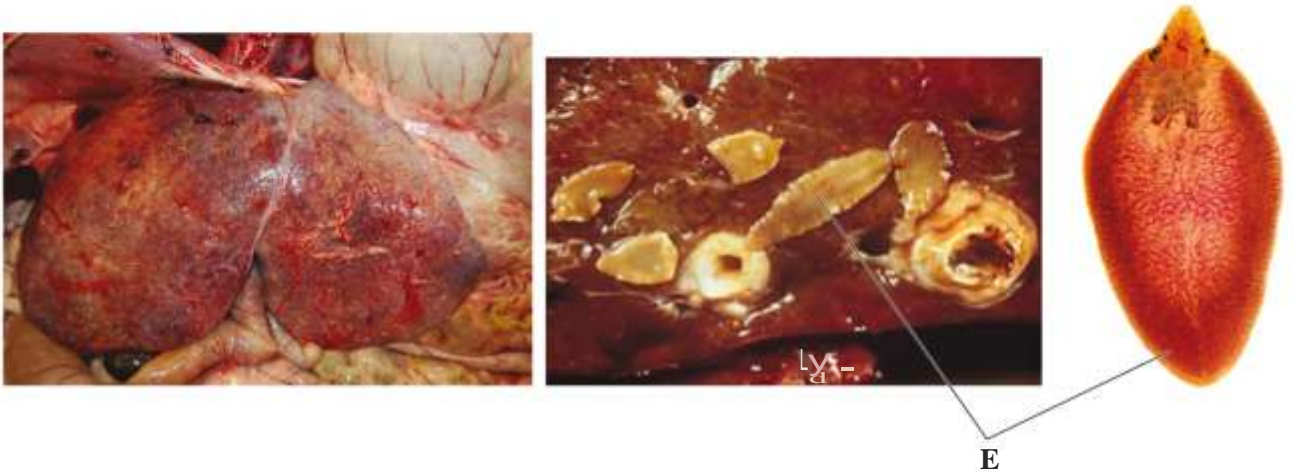
Answer *all* the questions in this section in the spaces provided.

- 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 labelled **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 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. (2 marks)

17 The pictures below illustrate two rabbit breeds.



A

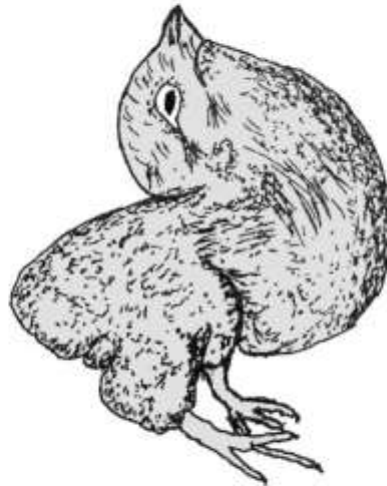


B

- (a) Name the rabbit breeds shown above.
 - A** (1 mark)
 - B** (1 mark)
- (b) Name the major feeding practice missing from the photograph labelled **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 upgrading as a method of improving indigenous cattle for milk production. (8 marks)
- (b) Describe the causes of low egg production in layers. (12 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)