

20

Attn: Mr. Derrick Ramdath

- 2 -

SECTION I

Answer ALL questions.

Write your answer in the space provided.

1. Many non-governmental organizations have been promoting food security through home gardening. Mary is interested in home gardening, but the soil around her home is rocky and unsuitable for growing crops.

(a) Recommend TWO methods which Mary can use to grow vegetables at her home.

.....  
.....

( 2 marks)

(b) State ONE advantage for EACH method recommended in (a) above.

.....  
.....

( 2 marks)

Total 4 marks

2. Marketing and rural infrastructure are two major constraints to agriculture in the Caribbean region.

(a) Name TWO OTHER constraints to agriculture in the Caribbean region.

.....  
.....

( 2 marks)

(b) Patsy is a vegetable farmer and she is experiencing problems in getting workers to assist her on her farm. Suggest TWO ways in which Patsy can overcome this problem.

.....  
.....

( 2 marks)

Total 4 marks

GO ON TO THE NEXT PAGE

33

3. Plants grow best on slightly acidic to neutral soils. A farmer tests his soil and the results indicate that it is acidic.

(a) What is the possible pH range of the farmer's acidic soil?

..... ( 1 mark )

(b) Identify ONE soil amendment the farmer can use to treat this problem.

..... ( 1 mark )

(c) Briefly explain how the farmer would apply the soil amendment identified in (b) above.

.....  
.....  
..... ( 2 marks )

Total 4 marks

4. Figure 1 and Figure 2 show machinery and equipment used on a farm.

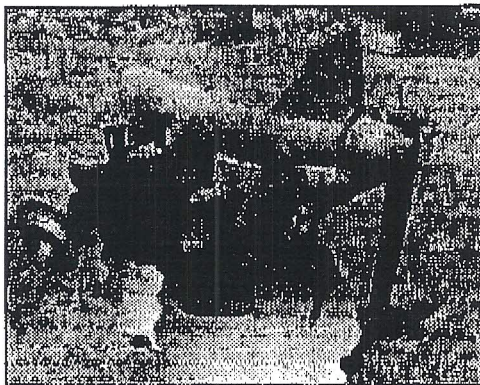
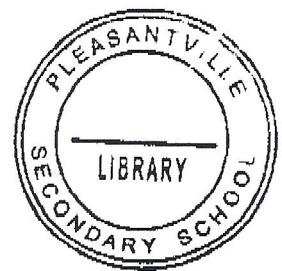


Figure 1



Figure 2



(a) Identify the machinery and equipment in Figure 1 and Figure 2.

Figure 1: .....

Figure 2: .....

( 2 marks )

(b) Suggest TWO benefits to crop production when the machinery in Figure 1 is used.

.....  
.....

( 2 marks)

**Total 4 marks**

5. Rations for livestock are manufactured to meet the animal's requirements.

(a) State the enzyme responsible for the breakdown of protein in the proventriculus.

.....

( 1 mark)

(b) State ONE function of the rumen.

.....

( 1 mark)

(c) A farmer uses grass silage supplemented with wheat middlings, and molasses urea blocks to feed his animals.

(i) Name ONE animal which BEST utilizes the feed types used by the farmer.

.....

( 1 mark)

(ii) Suggest ONE reason why these feeds meet the requirements of the type of animal named at (c) (i) above.

.....

.....

( 1 mark)

**Total 4 marks**

6. In the Caribbean region broilers are reared in poultry pens where heat build-up can be substantial during the midday hours. Figure 3 represents a typical poultry pen. Study the diagram and answer the questions which follow.

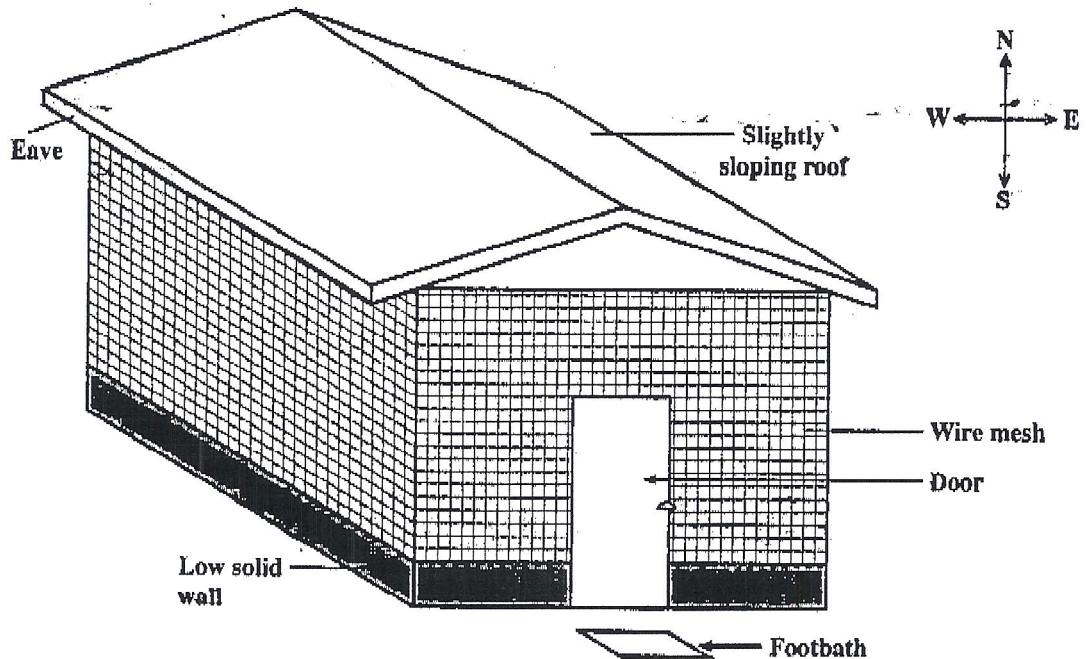


Figure 3

- (a) (i) Suggest ONE way of improving the design of the pen to reduce the build-up of heat.

.....  
 ( 1 mark )

- (ii) Explain how the improved design in (a) (i) above helps to reduce heat build-up.

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

- (b) It is generally accepted that housing for livestock should provide a secure environment for the animals. Identify TWO features in the typical poultry pen in Figure 3, which provide security for broilers.

.....  
 .....  
 ( 2 marks )

Total 4 marks





- 6 -

**SECTION II****Answer ALL questions.****Write your answer in the answer booklet provided.**

7. (a) (i) One record used by farmers in managing their business is variable cost. Name ONE OTHER type of cost which is incurred on a poultry farm. (1 mark)
- (ii) Define the cost you named in your answer in (a) (i) above, and give ONE example of that cost on a poultry farm. (2 marks)
- (b) Prepare a complete budget, identifying the TWO types of costs for a farm, using the information provided in Table 1 below.

Include total expenses and expected profits in your answer. Show all your working. (9 marks)

**TABLE 1: PROJECTED EXPENDITURE AND INCOME ON A POULTRY FARM**

Item	Value (\$)
Cost of building	5 000.00
Cost of waterers and feeders	500.00
Feed	10 000.00
Medication	500.00
Labour	3 000.00
Electricity	1 000.00
Meat sales	40 000.00
Depreciation	2 000.00
Egg sales	15 000.00
Land	500.00
Beak trimmers	500.00
Transportation	5 000.00

**Total 12 marks****GO ON TO THE NEXT PAGE**

8. Farmer Ben has been planting lettuce on his plot of land for two years. He decides to grow sweet potato as part of his crop rotation.

(a) For EACH of the activities listed below, suggest the changes he would have to make in his cultivation method.

(i) Land preparation (2 marks)

(ii) Harvesting (5 marks)

(iii) Postharvest handling (2 marks)

(b) List TWO parts of the sweet potato plant which can be used for propagation. (2 marks)

(c) Name ONE variety of sweet potato recommended for planting in the Caribbean. (1 mark)

Total 12 marks

9. (a) Figures 4 and 5 represent equipment used in the honey extraction process.

Identify EACH piece of equipment in Figure 4 and Figure 5.



Figure 4

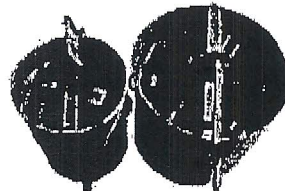
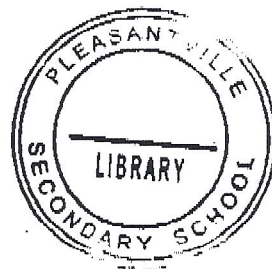


Figure 5

(2 marks)



- 8 -

- (b) (i) Farmers usually examine feed labels from commercial rations to ensure that the correct ration is bought. State an appropriate feed for one-day-old broilers.  
( 1 mark )
- (ii) One hundred chickens in Pen A consumed 550 kg of feed while 200 chickens in Pen B consumed 850 kg of feed. Both pens were fed the same type of feed and the birds weighed an average of 2.2 kg at the end of five weeks.
- a) Explain what is meant by 'feed conversion ratio'.
- b) Which pen has the better feed conversion ratio?  
Show all your working. ( 5 marks )
- (iii) There was an outbreak of bronchitis in one of the pens. Recommend TWO measures which a farmer can adopt to minimize the effects of the disease on the performance of the birds.  
( 2 marks )
- (iv) The Extension Officer suggested that the protein quality of the feed might vary between batches of feed and might have been responsible for the poor performance of the birds. Recommend TWO measures to overcome this problem.  
( 2 marks )

**Total 12 marks****END OF TEST**