

Post-it® Fax Note	7671	Date	04/05/11	# of pages	8
To	NICOLE HILLS	From	DEREK RAMDATT		
Co./Dept.		Co.	RID CLAND EAST SEC		
Phone #		Phone #	644-70		
Fax #	690 1381	Fax #			



TEST CODE **01203020**

MAY/JUNE 2010

**CARIBBEAN EXAMINATIONS COUNCIL**

**SECONDARY EDUCATION CERTIFICATE  
EXAMINATION**

**AGRICULTURAL SCIENCE  
(Single-Award)**

**General Proficiency**

**Paper 02**

*2 hours*

**READ THESE DIRECTIONS CAREFULLY.**

1. There are nine questions in this booklet, six in Section I and three in Section II. Answer **ALL** questions.
2. Each question in Section I carries 4 marks. Each question in Section II carries 12 marks.
3. For each question in Section I, write your answer in the space provided. For each question in Section II, write your answer in the answer booklet provided. Attach the answer booklet to the question paper and return them at the end of the examination.

**DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

Copyright © 2008 Caribbean Examinations Council ®.  
All rights reserved.

**SECTION I**

**Answer ALL questions in this section.**

**Write your answers in the spaces provided in this booklet.**

1. (a) An attractive way of supporting farmers with incentives is to provide them with farm inputs.

List TWO OTHER ways by which Caribbean governments can offer incentives to farmers.

.....  
.....

**( 2 marks)**

- (b) Sustainable agriculture promotes the farm as a well-managed economic unit, thereby reducing farmers' dependence on subsidies.

Suggest TWO OTHER positive contributions made by sustainable agriculture.

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

**( 2 marks)**

**Total 4 marks**

2. Agriculture makes very significant contributions to the development of national, regional and international economies.

- (a) List TWO contributions which agriculture can make to the national economy.

.....  
.....

**( 2 marks)**

- (b) Suggest TWO ways by which the Ministry of Agriculture can support young people who are involved in agricultural production.

.....  
.....

**( 2 marks)**

**Total 4 marks**

**GO ON TO THE NEXT PAGE**

3. Soil erosion occurs as a result of the actions of wind and water.

(a) Explain how water causes soil erosion.

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

(b) Mulch, when used as a soil erosion control method, harbours pests. Conservation techniques such as strip cropping, however, do not present such problems.

Suggest TWO OTHER conservation techniques that can be used to reduce soil erosion.

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

**Total 4 marks**

4. (a) The germination of seeds is affected by the depth at which they are planted.

List TWO OTHER factors which affect the germination of seeds planted in the field.

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

(b) In an experiment, a student observes that the germination of seeds is higher in new, unused seedling trays than in trays which have been previously used.

(i) Suggest ONE reason that may account for this observation.

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

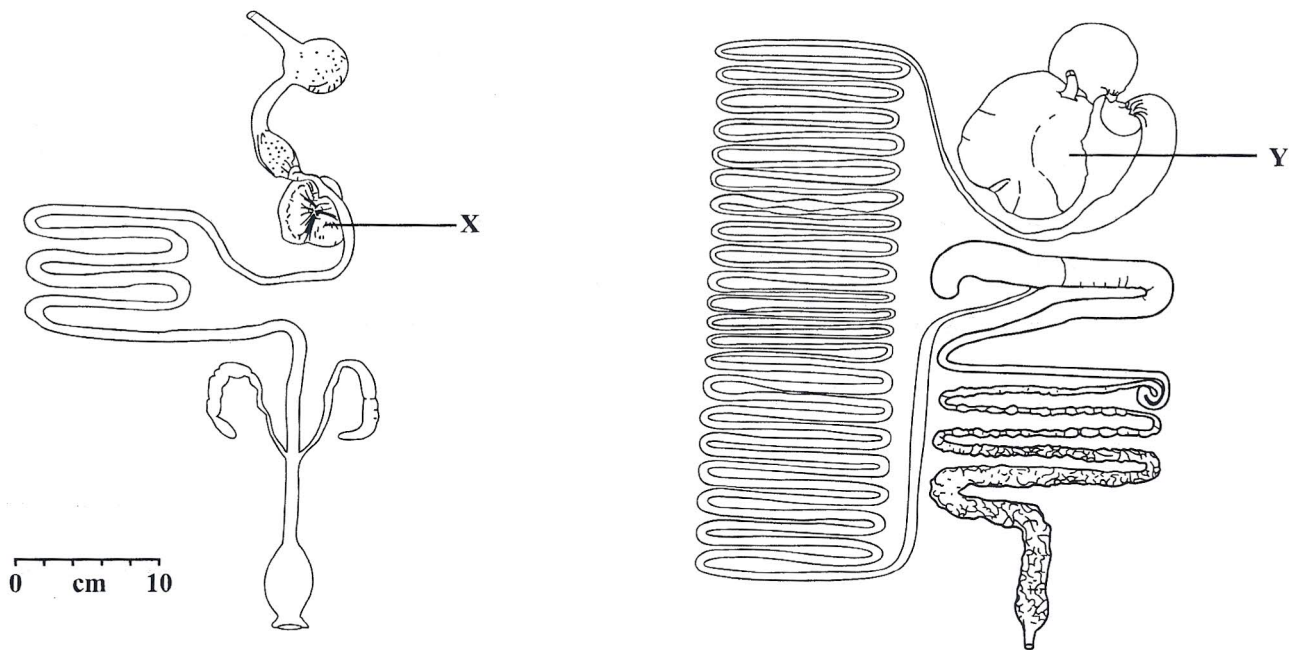
(ii) Describe ONE measure the student can undertake to improve the germination of seeds sown in seedling trays which have been previously used.

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

**Total 4 marks**

GO ON TO THE NEXT PAGE

5. Figure 1 shows the digestive tract of two different species of farm animals.



**Species A: Poultry**

**Species B: Cattle**

**Figure 1. Digestive tract of two species of animals**

(a) State the names of the parts of the digestive tract labelled X and Y respectively in Figure 1.

X ..... (1 mark)

Y ..... (1 mark)

(b) A farmer feeds to Species B a ration which consists mainly of grass. Give ONE reason why Species B will be better able to utilize this feed.

.....

.....

(2 marks)

**Total 4 marks**

GO ON TO THE NEXT PAGE

6. (a) Some forages fed to animals are para, antelope, stylosanthes and kudzu.

Name ONE legume and ONE grass from the list of forages above.

Grass ... Pangola, Guinea .....

Legume ... Lucernum .....

(2 marks)

(b) The decrease in forage production during a prolonged dry period resulted in a 20% reduction in milk production.

Advise farmers on TWO measures which should be taken during the next rainy season to correct this problem.

Storage of water to water forage  
cut and silage or dry grass for dry season  
other methods of feeding

(2 marks)

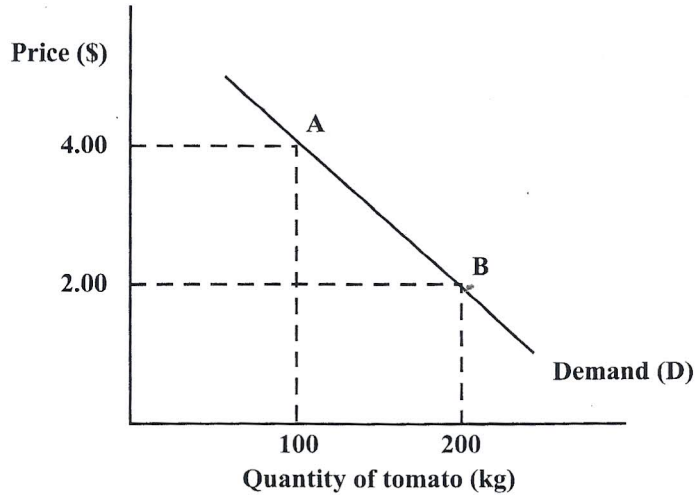
Total 4 marks

**SECTION II**

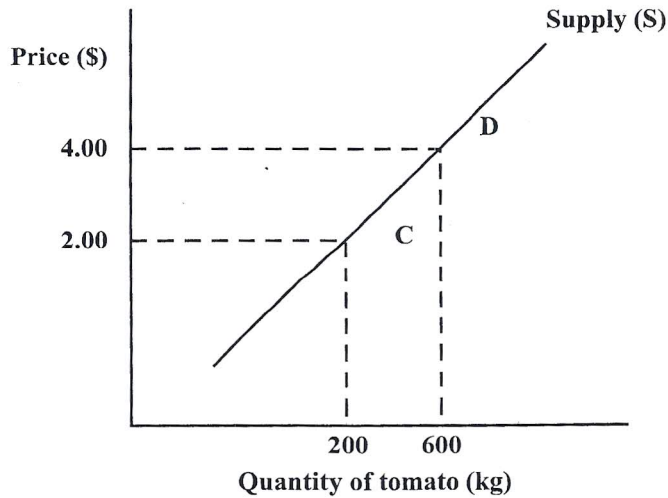
**Answer ALL questions in this section.**

**Write your answers in the answer booklet provided.**

7. Study the graphs in Figure 2 and Figure 3 and answer the questions that follow.



**Figure 2. Demand graph**



**Figure 3. Supply graph**

- (a) Using price and quantity, explain what is happening at point B of Figure 2.

**(2 marks)**



- (b) If the price of tomato increases from \$2.00 to \$4.00:
- (i) What will be the quantity demanded?
  - (ii) Suggest TWO ways by which the consumer will respond to the increase in price.
  - (iii) How will the farmer MOST likely respond?
  - (iv) What will be the quantity supplied? **(5 marks)**
- (c) Suggest TWO measures which Caribbean governments can take to prevent the scarcity of tomato. **(2 marks)**
- (d) State the law of diminishing returns, using an example of a crop grown on a farm. **(3 marks)**

**Total 12 marks**

8. (a) Weeds are described as unwanted plants and if they are not controlled they have adverse effects on crop production.

List THREE ways by which weeds can affect the growth and yield of crops.

*Rob plants, Sun, light, rain, water, disease organisms* **(3 marks)**

- (b) Farmer Dillon cultivates maize (corn) on a two-hectare plot of land. He controls weed growth with a locally available weedicide.

- \* (i) Categorize weedicide use as either manual, mechanical, chemical or cultural control.

- (ii) After continued use of the weedicide, Farmer Dillon observed that the broad leaf weeds had disappeared but other weeds persisted. Give TWO likely reasons for this observation. - *Type of weedicide, Broad spectrum, Narrow spectrum, Selective, Nonselect*

- (iii) Describe TWO cultural practices Farmer Dillon can use on his farm to control weed growth. *crop rotation, crop competition, mulching.*

- (iv) Identify TWO methods of mechanical weed control. *Machines* **(9 marks)**

**Total 12 marks**

*hand pulling  
hoeing  
tillage  
burning  
ploughing*

9. (a) (i) State the incubation period for broiler eggs.  
(ii) What is the purpose of candling hatching eggs?  
(iii) Name the specific type of ration fed to hens that are laying.

(3 marks)

- (b) Figure 4 shows one-day-old chickens in a brooding area.

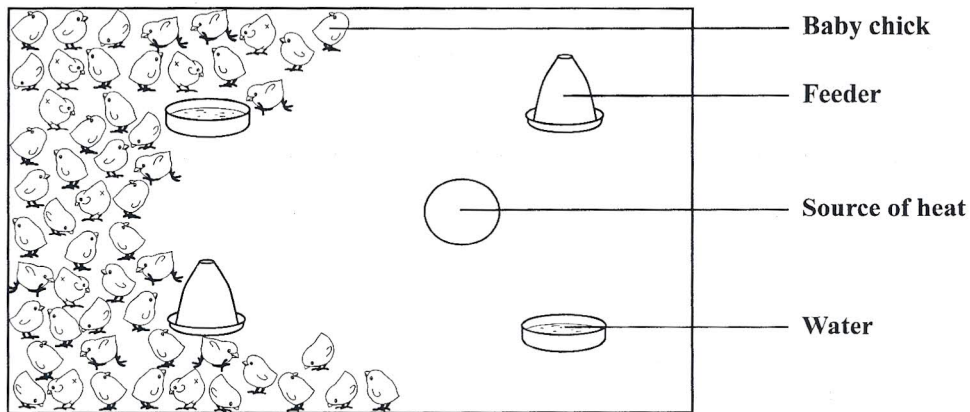


Figure 4. Baby chicks in a brooder

Identify ONE problem shown in Figure 4 and suggest how the problem could be corrected. (2 marks)

- (c) A new poultry farmer recently lost many birds during the brooding period. He believes that the feed and litter quality were inadequate. Advise him on how he should manage his birds during this brooding period. Your answer should include TWO practices for feed and TWO practices for litter quality. (4 marks)
- (d) The farmer also observed bloody droppings in the litter.

- (i) Identify the disease MOST likely affecting the birds.  
(ii) Advise the farmer on TWO management practices to correct this problem. (3 marks)

Total 12 marks

END OF TEST