FORM TP 2016043

TEST CODE **01203020**

MAY/JUNE 2016

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

AGRICULTURAL SCIENCE (Single Award)

Paper 02 – General Proficiency

2 hours

READ THE FOLLOWING INSTRUCTIONS 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. Do NOT write in the margins.
4. Write your answers in the spaces provided in this booklet.
5. You may use a silent, non-programmable calculator.
6. If you need to rewrite any answer and there is not enough space to do so on the original page, you must use the extra page(s) provided at the back of this booklet. **Remember to draw a line through your original answer.**
7. **If you use the extra page(s) you MUST write the question number clearly in the box provided at the top of the extra page(s) and, where relevant, include the question part beside the answer.**

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

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SECTION I

Answer ALL questions in this section.

Write your answers in the spaces provided in this booklet.

1. Figure 1 shows a demand and supply curve.

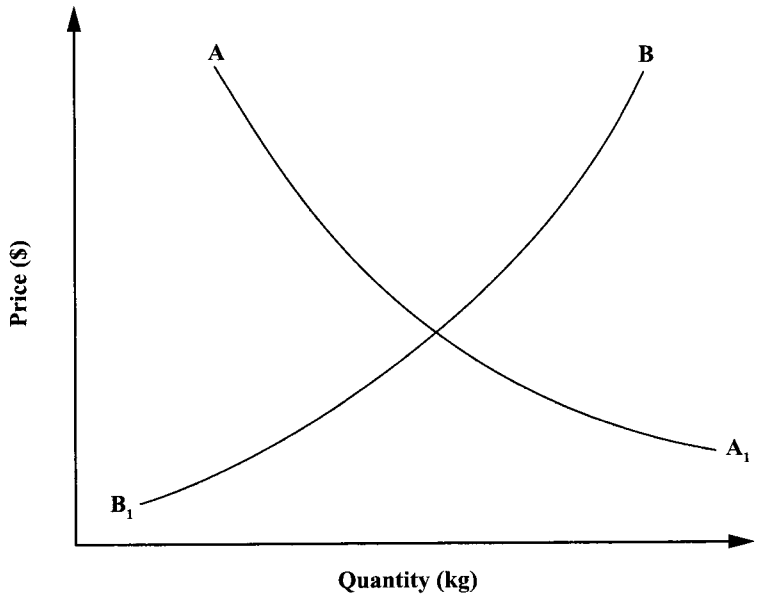


Figure 1. Demand and supply curve

(a) Use the letters to identify the demand curve and the supply curve in Figure 1.

Demand curve .....

Supply curve .....

(2 marks)

(b) The price of yam fell from $50 to $20 per kg within the last month. Suggest TWO reasons for this reduction in the price of yam.

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(2 marks)

Total 4 marks

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2. Farmer Rampersad applies for a loan from the Agriculture Bank to fund his farming activities, and is denied. The details of his loan application are shown in Table 1.

TABLE 1: LOAN APPLICATION FORM

Name:	Farmer Rampersad
Purpose of Loan:	To purchase input supplies and pay children's school fees
Type of Farm Operations:	Mixed farming
Project Proposal Submitted by Applicant:	Yes
Credit History:	Yes
Applicant's Current Income:	$5000 per annum
Applicant's Current Expenses:	$8000 per annum
Collateral:	None

(a) What is meant by the term 'mixed farming' ?

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(2 marks)

(b) With reference to the information in Table 1, suggest TWO reasons why Farmer Rampersad's loan application is denied.

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(2 marks)

Total 4 marks

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3. (a) Define the term 'soil erosion'.

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(1 mark)

Figure 2 shows a type of soil erosion commonly found on hillsides.



Figure 2. Soil erosion found on hillsides

(b) Name the type of soil erosion shown in Figure 2.

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(1 mark)

(c) Suggest TWO soil management practices which can be used to prevent the type of soil erosion shown in Figure 2.

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(2 marks)

Total 4 marks

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4. (a) (i) Briefly explain what is meant by the term 'secondary tillage'.

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(1 mark)

(ii) Name ONE implement used in secondary tillage.

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(1 mark)

(b) An extension officer advises Farmer George that he should dress properly and check his knapsack sprayer before applying pesticides.

(i) Name ONE piece of protective clothing that helps to prevent contamination when spraying pesticides with a knapsack sprayer.

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(1 mark)

(ii) Suggest ONE safety check which should be performed on the knapsack sprayer before it is used.

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(1 mark)

Total 4 marks

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5. (a) Identify the structures labelled X and Y in the two digestive systems shown in Figure 3.

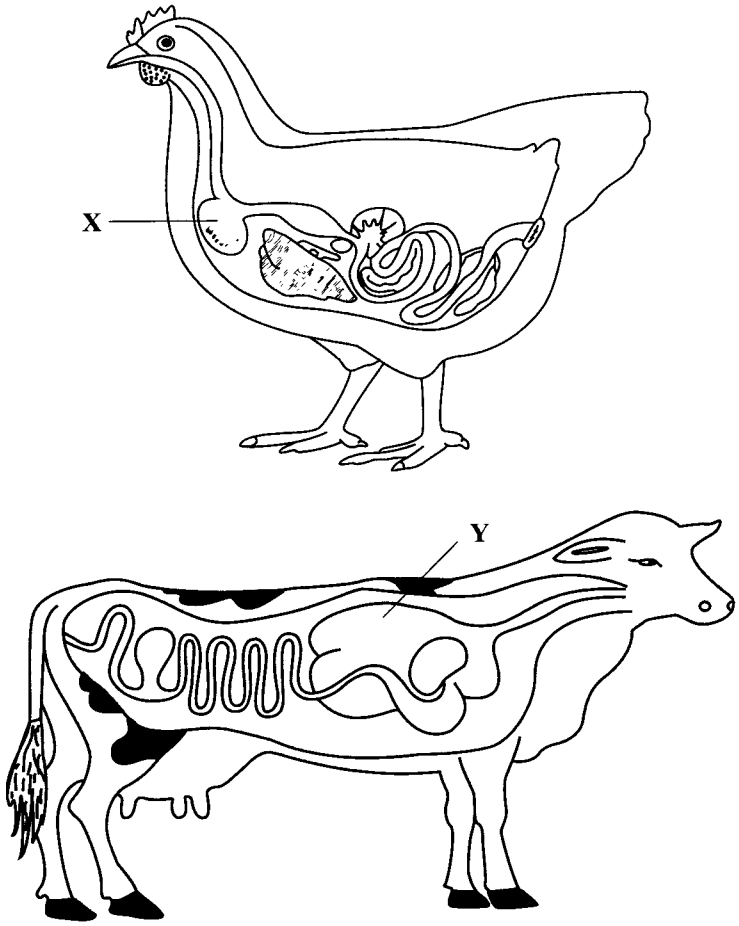


Figure 3. Digestive systems

X .....

Y .....

(2 marks)

(b) The temperature in a poultry pen can increase considerably in the dry season. Suggest TWO ways in which high temperatures may affect the behaviour of broiler birds.

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(2 marks)

Total 4 marks

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6. Dressing percentage is a term frequently used by butchers.

(a) Define the term 'dressing percentage'.

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(2 marks)

(b) The dressing percentages of two goats are 50% and 60% respectively. Suggest TWO reasons for the difference between the two dressing percentages.

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(2 marks)

Total 4 marks

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SECTION II

Answer ALL questions in this section.

Write your answers in the spaces provided in this booklet.

7. (a) State ONE difference between a partial budget and a complete budget.

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(2 marks)

Table 2 below shows the income and expenditure statement for Lall's Farm.

TABLE 2: INCOME AND EXPENDITURE STATEMENT FOR LALL'S FARM

Income	$
Sale of crops	400
Sale of livestock	300
Total Income	**700**
Expenses	
Land preparation	200
Insurance on farm vehicle	50
Seeds and fertilizers	200
Labour	100
Depreciation on farm machinery	50
Livestock feed and medicine	300
Interest on bank loan	100
Total Expenses	**1000**

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(b) Identify THREE fixed costs and THREE variable costs in Table 2.

(i) Fixed costs

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(3 marks)

(ii) Variable costs

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(3 marks)

(c) Calculate the gross margin, using the information in Table 2.

Show all calculations, including the formula.

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(2 marks)

(d) Using the value for the gross margin calculated in (c), determine whether Farmer Lall's operations are profitable or not. Give a reason for your answer.

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(2 marks)

Total 12 marks

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8. (a) Farmer Anne receives complaints from her customers that her anthurium flowers are of a poor quality. The flowers are wilted, the stems were too short, have crushed ends, and are brown in colour.

(i) Suggest THREE harvesting practices that may have resulted in the poor quality of the anthurium flowers.

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(3 marks)

(ii) Advise farmer Anne on THREE postharvest practices that may be carried out to improve the quality of the anthurium flowers.

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(3 marks)

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(b) A farmer decides to grow sweet peppers under shaded conditions using a 50% saran netting.

Explain THREE ways in which the shaded conditions are likely to affect plant growth and development.

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(6 marks)

Total 12 marks

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9. A farmer plants grasses and legumes to feed his cattle.

(a) (i) Identify ONE legume used to feed cattle.

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(1 mark)

(ii) State TWO characteristics of legumes.

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(2 marks)

(b) (i) Suggest ONE benefit of feeding cattle with

grass

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legume.

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(2 marks)

(ii) Suggest ONE negative effect of feeding excess legumes to cattle.

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(1 mark)

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(c) Figure 4 shows a system of rotational grazing.

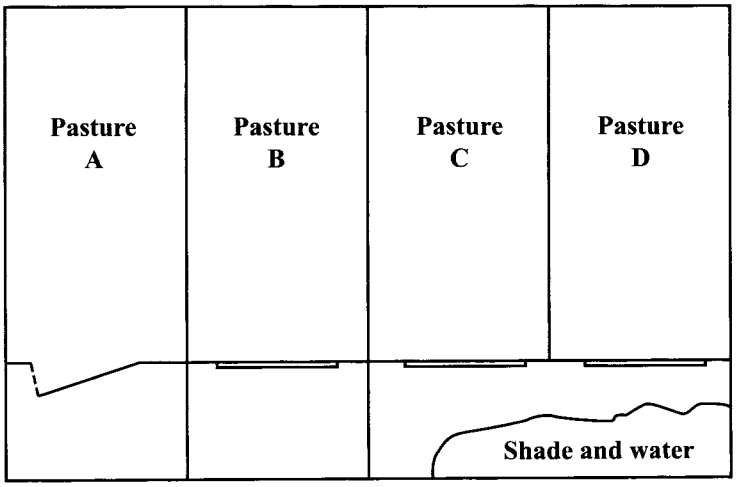


Figure 4. A system of rotational grazing

(i) Explain the principle of rotational grazing.

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(2 marks)

(ii) Suggest THREE advantages of using rotational grazing.

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(3 marks)

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(iii) Suggest ONE challenge that farmers may experience with a rotational grazing system.

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(1 mark)

Total 12 marks

END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.

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