FORM TP 2026–052

TEST CODE **01203020**

MAY–JUNE 2026

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

AGRICULTURAL SCIENCE
(Single Award)

Paper 02 – General Proficiency

2 hours

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READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of SIX questions in three sections. Answer ALL questions.
2. Write your answers in the spaces provided in this booklet.
3. Do NOT write in the margins.
4. You may use a silent, non-programmable calculator.
5. 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 lined page(s) provided at the back of this booklet. **Remember to draw a line through your original answer.**
6. **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.**

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SECTION I

Answer ALL questions in this section.

Write your answers in the spaces provided in this booklet.

1. (a) Briefly describe how plants are grown using trough culture.

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(1 mark)

(b) Ziva has a two-hectare farm in Cedar Valley. Most of the farmers in the area practise mixed farming using conventional methods. The main water source is a nearby river. Reports have shown that this river is polluted by pesticide runoff from the surrounding farms. Ziva also notices that nearby trees and plants are dying. Ziva recently attended to a seminar and learned about the principles of organic farming.

(i) State TWO principles of organic farming.

Principle 1 .....

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Principle 2 .....

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(2 marks)

(ii) Explain ONE way in which farmers in Cedar Valley can use organic farming principles to improve their environment.

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(2 marks)

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(c) Ziva wants to establish an organic farm. He made an application to the Ministry of Agriculture for his farm to be certified as an organic farm.

(i) State ONE potential economic benefit of Ziva's farm being certified as organic.

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(1 mark)

(ii) Based on the information provided in 1 (b) **on page 4**, advise the Ministry of Agriculture whether it should grant Ziva organic certification for his farm. You MUST provide THREE reasons for your answer.

Advice to the Ministry of Agriculture .....

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Reason 1 .....

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Reason 2 .....

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Reason 3 .....

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(4 marks)

Total 10 marks

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2. (a) Differentiate between a supply chain and a value chain.

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(2 marks)

(b) State the meaning of the term 'equilibrium point'.

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(1 mark)

(c) John owns a half-acre plot of land and plans to cultivate a new variety of lettuce. He intends to package and sell it at a higher price than other varieties of lettuce sold at nearby markets. John's extension officer advises him to assess factors influencing demand and supply of lettuce before making a decision on whether to cultivate and package the new variety.

(i) Suggest THREE demand-related factors John should consider before cultivating and marketing the new variety of lettuce.

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(3 marks)

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(ii) Identify TWO supply factors and explain how these factors could affect the selling price of John's lettuce at the market.

Factor .....

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Explanation .....

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Factor .....

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Explanation .....

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(4 marks)

Total 10 marks

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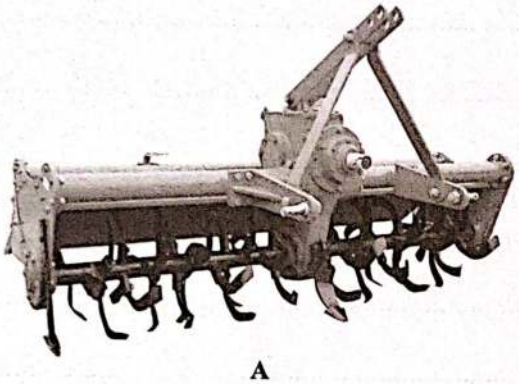
SECTION II

Answer ALL questions in this section.

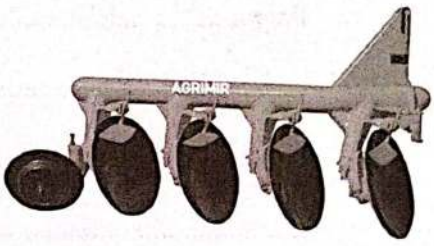
Write your answers in the spaces provided in this booklet.

3. Farmer Sandra wants to expand her cassava farm. The extension officer visited her farm and advised her that she should use mechanical land preparation methods instead of manual methods.

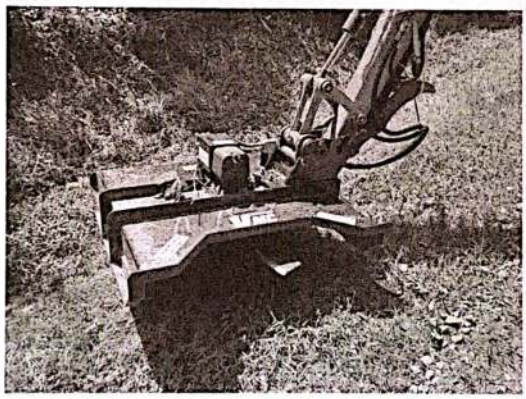
Figure 1 shows three implements, A, B and C, that are used for mechanical land preparation.



A



B



C

Figure 1. Implements for mechanical preparation

Source: https://s.alicdn.com/@sc04/kf/H93f971d0c957454c9689ee3dafb97b5ct.jpg?avif=close https://www.google.tt/search?q=image+disc+plough&rlz=1C1EJFA_enTT719TT730&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwj_tcHytdnWAhUJtBoKHcgrDrIQsAQIIw&biw=1366&bih=613#imgrc=WV9bqg3oNGo6dM: https://vmcequipment.com/our-products/excavator-brush-cutter/

Traditionally, Farmer Sandra cleared the land manually using a cutlass or machete.

(a) Which of the implements in Figure 1, A, B or C, can be used for mechanical land clearing? You MUST provide one reason for your answer.

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(2 marks)

(b) Farmer Earl wants to expand his operations to include large-scale cultivation of hot peppers. He recently attended a crop production workshop organized by the Ministry of Agriculture, where he learned that proper secondary tillage is important in hot pepper production.

(i) Explain ONE reason why proper secondary tillage is important when preparing soil for planting hot peppers.

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(2 marks)

(ii) Other than land clearing and tillage, state TWO land preparation methods Farmer Earl should use in preparing his plot of land to plant the hot pepper crop.

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(2 marks)

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(iii) Outline TWO benefits Farmer Earl is likely to experience by switching from manual crop cultivation to mechanical crop cultivation.

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(4 marks)

Total 10 marks

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4. (a) When crops are ready for harvesting, they show a specific sign. Complete Table 1 by indicating ONE sign that **each** of the following crops is ready for harvest.

TABLE 1: MATURITY SIGNS FOR CABBAGE, OKRA AND SWEET POTATOES

(i)

Crop	Sign that this Crop is Ready for Harvesting
Cabbage	.....
Okra	.....
Sweet potato	.....

(3 marks)

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(ii) Farmer Joel has a small plot of okra growing in his backyard. The diagram in Figure 2 outlines the steps for harvesting okra.

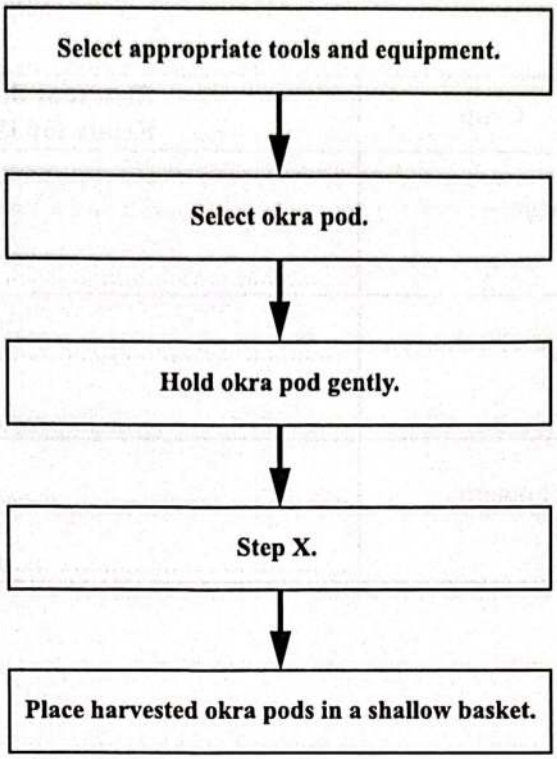


Figure 2. Steps for harvesting okra

State the step, X, that is missing in the figure above.

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(1 mark)

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Farmer Amy plants sweet potatoes and sells them to a supermarket chain. Her last batch of sweet potatoes was rejected by the supermarket. She was told that she did not follow the proper postharvest handling procedures for her sweet potatoes.

(b) Explain to Farmer Amy THREE postharvest handling procedures she must follow so that she can supply good quality sweet potatoes to the supermarket chain.

Postharvest procedure .....

Explanation .....

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Postharvest procedure .....

Explanation .....

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Postharvest procedure .....

Explanation .....

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(6 marks)

Total 10 marks

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SECTION III

Answer ALL questions in this section.

Write your answers in the spaces provided in this booklet.

5. (a) Farmer Grant has a large broiler farm from which he supplies dressed birds to nearby supermarkets and restaurants. He observed that a few of his birds were droopy, showed signs of loss of appetite and had bloody diarrhoea, as observed in their faeces.

(i) State the name of the disease affecting Farmer Grant's broilers.

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(1 mark)

(ii) Identify the causative agent of the disease stated in (a) (i).

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(1 mark)

(iii) State the mode of transmission of the disease stated in (a) (i).

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(1 mark)

(b) Other than droopiness, loss of appetite and bloody diarrhoea, identify THREE other general signs of illness in farm animals.

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(3 marks)

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(c) Explain TWO management practices that Farmer Grant can implement for the prevention and control of this disease on his broiler farm.

Management practice .....

Explanation .....

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Management practice .....

Explanation .....

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(4 marks)

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6. (a) Plentiful Eggs Company owns a layer production facility that produces table eggs for supermarkets. They also obtain additional revenue from the sale of animal by-products and animal waste generated from the farm. The manager noticed that the number of eggs produced by the layers on the farm showed a marked decline over a one-month period. In addition, buyers complained that the last batch of eggs was not as clean as expected.

(i) State ONE by-product that can be derived from waste generated by the rearing of layers.

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(1 mark)

(ii) Explain TWO factors that could have MOST likely contributed to the reduced egg production by the layers.

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(4 marks)

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(b) The proper handling of eggs involves several steps as illustrated in Figure 3.

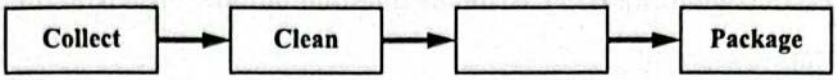


Figure 3. Steps in the proper handling of eggs

(i) Complete the diagram by filling in the missing step. **(1 mark)**

(ii) State TWO reasons for cleaning eggs.

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(2 marks)

(iii) Explain the **main** reason why eggs should NOT be washed.

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(2 marks)

Total 10 marks

END OF TEST

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

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EXTRA SPACE

If you use this extra page, you MUST write the question number clearly in the box provided.

Question No. ☐

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