

MARKER CODE


 Pacific
Community
Communauté
du Pacifique


Student Personal Identification Number

South Pacific Form Seven Certificate

AGRICULTURE

2019

QUESTION and ANSWER BOOKLET

Time allowed: Three hours

(An extra 10 minutes is allowed for reading this paper.)

INSTRUCTIONS

Write your **Student Personal Identification Number (SPIN)** in the space provided on the top right-hand corner of this page.

Answer **ALL QUESTIONS**. Write your answers in the spaces provided in this booklet.

If you need more space for answers, ask the Supervisor for extra paper. Write your SPIN on all extra sheets used and clearly number the questions. Attach the extra sheets at the appropriate places in this booklet.

Major Learning Outcomes (Achievement Standards)	Skill Level & Number of Questions				Weight/ Time
	Level 1 <i>Uni- structural</i>	Level 2 <i>Multi- structural</i>	Level 3 <i>Relational</i>	Level 4 <i>Extended Abstract</i>	
Strand 1: Primary Production Examine local and export primary production and analyse the influence of market controls.	5	2	2	0	15% 44 min
Strand 2: Sustainable Primary Production Analyse primary production practices that ensure sustainable primary production.	6	3	2	1	22% 61 min
Strand 3: Production Management Demonstrate understanding of production management of a locally produced animal primary product and of a locally produced plant primary product.	6	3	3	3	33% 75 min
TOTAL	17	8	7	4	70% 180 min

Questions in this examination require you to refer to primary products from your own country.

Check that this booklet contains pages 2–17 in the correct order and that none of these pages are blank.

HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

STRAND 1: PRIMARY PRODUCTION

Assessor's use only

	<p>Select one crop (vegetable or fruit) produced for the local market to answer questions 1.1a–1.3d below.</p> <p>Name of selected crop (vegetable or fruit): _____</p> <p>Name of your country:_____</p> <p>Specific market:_____</p>													
1.1a	<p>Proper disease management, harvest practices and post-harvest handling are critical to marketing success. Cooling produce to remove field heat and improve product storage/shelf-life is important to maintain the quality of the plant product during marketing.</p> <p>Define product storage/shelf-life in relation to your selected crop.</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"> <tr> <th colspan="2" style="text-align: center;">Unistructural</th> </tr> <tr> <td style="text-align: center;">1</td> <td style="width: 30px;"></td> </tr> <tr> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td style="text-align: center;">NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR					
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1.1b	<p>Explain how marketing organisations will have an impact on the export of your selected crop.</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"> <tr> <th colspan="2" style="text-align: center;">Relational</th> </tr> <tr> <td style="text-align: center;">3</td> <td style="width: 30px;"></td> </tr> <tr> <td style="text-align: center;">2</td> <td></td> </tr> <tr> <td style="text-align: center;">1</td> <td></td> </tr> <tr> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td style="text-align: center;">NR</td> <td></td> </tr> </table>	Relational		3		2		1		0		NR	
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1.1c	<p>There are various grower organisations in the Pacific region such as The Vanuatu Organic Cocoa Growers Association (VOCCA), Tanna Coffee and Venui Vanilla in Vanuatu, Kastom Garden Association in the Solomons, etc.</p> <p>Describe the effects of a grower organisation on the export of your selected crop.</p> <hr/> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Multistructural</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Multistructural		2		1		0		NR			
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1.2	<p>Transport is regarded as a crucial factor in improving agricultural productivity. It enhances quality of life of the people, creates a market for agricultural produce, facilitates interaction among geographical and economic regions and opens up new areas for economic focus.</p> <p>State a transport method used to transport your selected primary production to the market identified.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR					
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1.3a	<p>Agricultural produce is normally channelled through various types of markets such as Rural Primary Markets and Retail Markets.</p> <p>Select one type of available market channel in your country and explain how it influences the production of your selected crop.</p> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Relational</th> </tr> </thead> <tbody> <tr> <td>3</td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Relational		3		2		1		0		NR	
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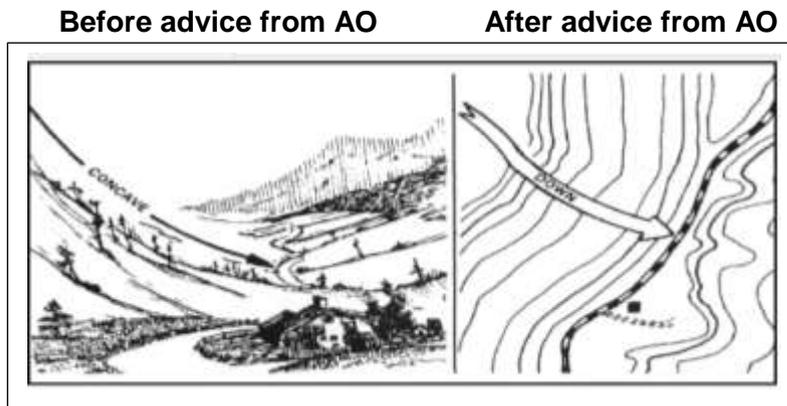
1.3b	<p>The table below shows different marketing systems used by Farmer A and Farmer B.</p> <table border="1"> <thead> <tr> <th></th> <th>FARMER A</th> <th>FARMER B</th> </tr> </thead> <tbody> <tr> <td>Access to market</td> <td>Local retailers and wholesalers</td> <td>Larger markets via the internet</td> </tr> <tr> <td>Price determination</td> <td>Determined by local supply and demand</td> <td>Determined by government</td> </tr> <tr> <td>Competition</td> <td>Local producers</td> <td>Competition is international</td> </tr> </tbody> </table> <p>Identify the marketing systems used by Farmer A and Farmer B.</p> <hr/> <hr/> <hr/> <hr/>		FARMER A	FARMER B	Access to market	Local retailers and wholesalers	Larger markets via the internet	Price determination	Determined by local supply and demand	Determined by government	Competition	Local producers	Competition is international	<table border="1"> <thead> <tr> <th colspan="2">Multistructural</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Multistructural		2		1		0		NR	
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1.3c	<p>Apart from the market channels listed in 1.3a, state another market channel available in your country in relation to your selected crop.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR															
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1.3d	<p>“Biosecurity New Zealand's focus is on stopping pests and diseases at the border, before they get to New Zealand, and eradicating or managing the impact of those already here.” Source: https://www.biosecurity.govt.nz/biosecuritynz/</p> <p>Identify one biosecurity regulation that exists in your country that is relevant to your selected crop.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR															
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1.4	<p>Most crops need a growing season of at least 90 days and some go through seasonal growth cycles such as annuals, biennials and perennial.</p> <p>Define seasonality in terms of primary production.</p> <hr/> <hr/> <hr/>	<table border="1"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR															
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STRAND 2: SUSTAINABLE PRIMARY PRODUCTION

Assessor's use only

Use the information below to answer question 2.1a.

The diagram below illustrates a piece of land that a farmer purchased and the effect on that land after he sought expert advice from an Agricultural Officer (AO) and used it on the land.



Source: <https://550cord.com/land-navigation-training/image113.gif>

2.1a Name **one** management practice that the farmer must have been advised to use.

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2.1b A farmer purchased a piece of arable land with well-structured loam soil that is suitable for continuous cultivation with minor or no constraints to sustainable production.

Define the term **sustainable production**.

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2.2 Farmers/growers are faced with new challenges and opportunities every day.

Name **one** key issue affecting long-term primary production.

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2.3	<p>Use the information below to answer question 2.3.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Recently, the health of coconut palms has come under severe threat. The Pacific Community (SPC), working with Pacific Island countries and territories, and development partners, is looking for ways to meet this threat before it devastates the hopes of economic progress in the region. In August of 2017, an alert was issued identifying a new danger to the Pacific, which is causing devastation to coconut palms and expanding rapidly across the region. The new threat comes from a longstanding adversary in the region.</p> </div> <p>Source: Pacific Community: October 2017</p> <p>Identify the invasive species that affects coconut palms production in the Pacific Island countries and territories.</p> <hr/> <hr/> <hr/>	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;">1</td> <td style="width: 50%;"></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR			
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	<p>Select one important product (plant or animal) produced in your country for either local or overseas markets to answer questions 2.4a–2.4c.</p> <p>Name of plant or animal product: _____</p> <p>Specific market: _____</p>											
2.4a	<p>Waste management is one of the major environmental concerns in the world.</p> <p>Identify a waste management practice that should be followed in order to reduce waste for your selected plant or animal product.</p> <hr/> <hr/> <hr/>	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">Unistructural</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;">1</td> <td style="width: 50%;"></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Unistructural		1		0		NR			
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2.4b	<p>Describe a waste management practice used to maintain sustainable production for your selected plant or animal product.</p> <hr/> <hr/> <hr/> <hr/>	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">Multistructural</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;">2</td> <td style="width: 50%;"></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </tbody> </table>	Multistructural		2		1		0		NR	
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Use the information below to answer question 2.5.

Fruit flies (Family *Tephritidae*) are one of the most serious insect pests of horticultural produce throughout the tropical and sub-tropical world. They attack and damage fruits and vegetables by laying eggs under the skin. The eggs hatch into larvae that feed in decaying flesh of the fruits and vegetables.

Source: Pest Leaflet No. 40, 2001: Plant Protection Service, SPC

2.5 Describe the control mechanism used for fruit flies.

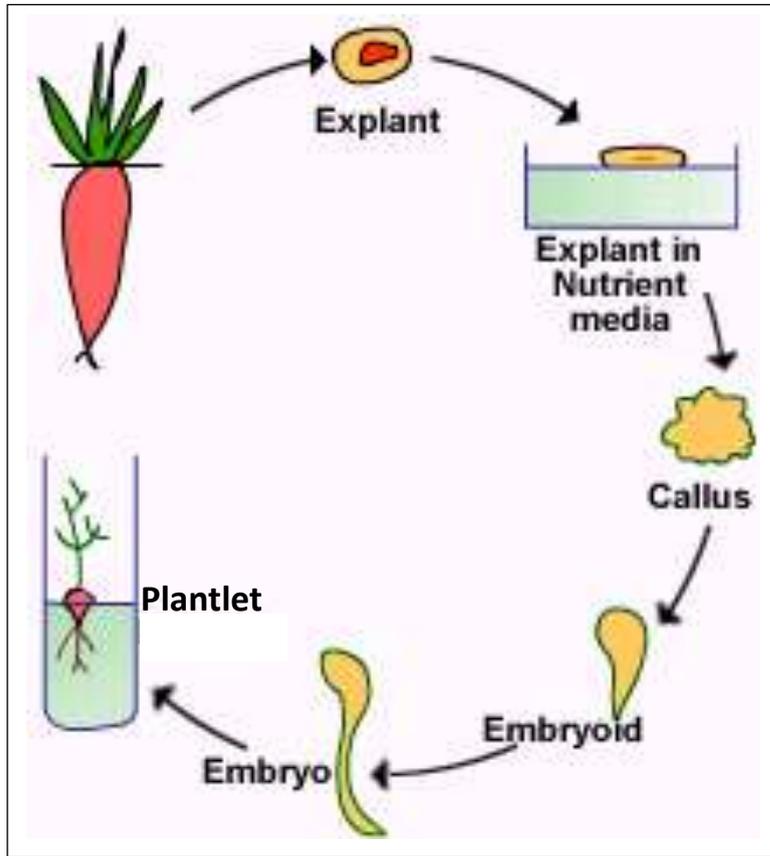
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2.6 Throughout human history, wherever food crops have been produced, some kind of rotation of crops appears to have been practiced. Explain how crop rotation cultivation ensures the capability of long-term primary production.

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Use the diagram below to answer question 2.9.

Ex Situ Conservation of Plant Genetic Resources



Source: <https://www.google.com/search?ms-android-mpcs-us-revc&prmd>

2.9

Identify the genetic resource management practice used to maintain sustainable production for the plant.

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STRAND 3: PRODUCTION MANAGEMENT

Assessor's use only

	<p>Use the information below to answer questions 3.1a–3.1d.</p> <p>Select a locally produced farm animal and animal product and its specific market.</p> <p>Locally produced farm animal: _____</p> <p>Local animal product produced: _____</p> <p>Specific market for the farm animal/product: _____</p> <p>Farmers follow a sequence of steps of management practices in order to produce a farm animal product that meets the requirements of different markets.</p>													
<p>3.1a</p>	<p>State the slaughter timing and method for your chosen animal.</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1"> <tr> <th colspan="2">Unistructural</th> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR					
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<p>3.1b</p>	<p>“Profit” may be the only word needed to describe the importance of breed selection. Profit potential depends partly on selecting breeds suited to the farming operation.</p> <p>With reference to your selected farm animal, describe breed selection.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1"> <tr> <th colspan="2">Multistructural</th> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Multistructural		2		1		0		NR			
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<p>3.1c</p>	<p>The shift towards high protein diet and increasing preference for poultry meat continues to influence the growth of the poultry feed market worldwide.</p> <p>Explain how market demand for poultry influences poultry feed or nutrition in the schedule of operation.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1"> <tr> <th colspan="2">Relational</th> </tr> <tr> <td>3</td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Relational		3		2		1		0		NR	
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3.2a



Source: <https://anrcatalog.ucanr.edu/pdf/8565.pdf>

Identify the management practice used in beef production as shown above.

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3.2b

Describe the management practice identified in **3.2a** above that is used in the beef production process.

Multistructural	
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3.3

A farmer is interested in vegetable farming. The first thing that needs to be done is to decide where the garden is to be located.

Describe the process of site selection as a step in the schedule of operations that the farmer is going to follow to prevent him/her from making mistakes that could affect the productivity and beauty of his/her garden.

Multistructural	
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Use the information below to answer questions 3.4a–3.4b.

The goal for post-harvest management practices is to improve the quality and value of horticultural crops that are available to consumers.



Source: <https://www.google.com>

3.4a Name the post-harvesting process shown above.

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3.4b Explain the significance of the post-harvest process identified in **3.4a** above.

Relational	
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	<p>Use the information below to answer questions 3.5a–3.5d.</p> <p>Select a locally produced crop and its specific market.</p> <p>Locally produced crop:</p> <p>Specific market for the crop:</p> <p>Farmers follow a sequence of steps of management practices in order to produce a crop that meets the requirements of different markets. Listed in the box below are four management practices carried out in a schedule of operations in the production of crop/plant product.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 60%;"> <ul style="list-style-type: none"> Irrigation/water Pest and disease control Weed control Nutrition/fertilizer application </div>													
3.5a	<p>State one particular management practice that is used throughout the production process.</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr style="background-color: #cccccc;"> <th colspan="2">Unistructural</th> </tr> <tr> <td style="width: 20px;">1</td> <td style="width: 20px;"></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Unistructural		1		0		NR					
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3.5b	<p>Select two different management practices from the list above that are carried out throughout the management period and compare them in terms of their effectiveness.</p> <p>Management practices</p> <p>1. _____</p> <p>2. _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr style="background-color: #cccccc;"> <th colspan="2">Relational</th> </tr> <tr> <td style="width: 20px;">3</td> <td style="width: 20px;"></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>NR</td> <td></td> </tr> </table>	Relational		3		2		1		0		NR	
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