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SUPERVISOR'S USE ONLY

Level 1 Agricultural and Horticultural Science, 2016

90924 Demonstrate knowledge of horticultural plant management practices and related plant physiology

2.00 p.m. Monday 14 November 2016

Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate knowledge of horticultural plant management practices and related plant physiology.	Demonstrate in-depth knowledge of horticultural plant management practices and related plant physiology.	Demonstrate comprehensive knowledge of horticultural plant management practices and related plant physiology.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

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

TOTAL

ASSESSOR'S USE ONLY

QUESTION ONE: PESTS AND DISEASES

Pests and diseases can affect plant growth in a number of ways. Plant pests such as the white cabbage butterfly caterpillar and aphids can have a major impact on plant growth.

White cabbage butterfly caterpillar



Source: <http://www.globalnetacademy.edu.au/>

Aphids



Source: <http://www.gardeningknowhow.com/>

- (a) Briefly describe THREE different methods which could be used to control the white cabbage butterfly caterpillar.

Method	Description

- (b) Explain TWO ways in which plant pests such as the white cabbage butterfly caterpillar or aphids can affect plant growth. In your answer, refer to plant structures and plant processes.

(1) _____

(2) _____

QUESTION TWO: PLANT TRAINING TECHNIQUESASSESSOR'S
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Plant training is important for good plant growth and management.

- (a) For each of the following training techniques, describe how it is carried out and explain why it is done.

Disbudding: _____

Stopping: _____

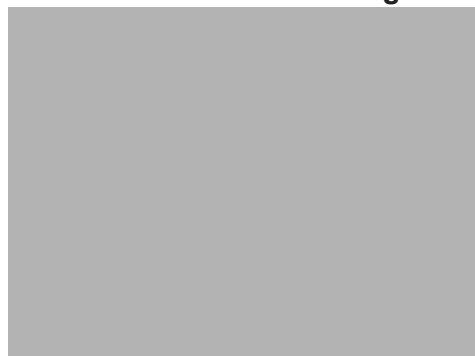
Thinning: _____

Staking: _____

Training and pruning are commonly used horticultural practices which are performed for a number of reasons. One technique is Espalier. Espalier trains fruit trees to grow along walls or fences.

Espalier training

Source: <http://www.mnlocavore.com/wp-content/>

Central Leader training

Source: <http://www.gardening-guy.com/wp-content/>

QUESTION THREE: WATER

Transpiration is an essential plant process.

- (a) Using the table below, identify the plant structures involved in each stage of transpiration, and state what process occurs at each stage.

Stage	Structures involved	Process
Water being absorbed into the plant.		
Water being moved through the plant.		
Water leaving the plant.		

- (b) (i) Write the word equation for photosynthesis.

- (ii) Describe TWO methods which can be used to increase the rate of photosynthesis, and explain how they can affect plant growth.

(1) _____

(2) _____

Two commonly used methods of irrigation in vineyards are sprinklers and dripline irrigation, as shown in the photographs below.

Sprinklers



Source: <http://fm.cnn.com/applications/cnn.com/>

Dripline irrigation



Source: <https://i.ytimg.com/vi/mX4aSjF41mw/>

