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90924



Level 1 Agricultural and Horticultural Science, 2019

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

9.30 a.m. Thursday 28 November 2019 Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate knowledge of horticultural plant management practices and related	Demonstrate in-depth knowledge of horticultural plant management	Demonstrate comprehensive knowledge of horticultural plant management
plant physiology.	practices and related plant physiology.	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 2–12 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

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Garden vegetable harvest

(a) Describe THREE actions, or steps, taken when preparing a seed bed in a vegetable garden, and explain why each action is carried out.

Description of action	Why action is carried out

b)	Describe how fertiliser can be applied to a vegetable garden, and explain how fertiliser affects plant growth.	ASSESSOR USE ONLY
	ds need to be controlled in a vegetable garden. This can be done by physical or chemical ods.	
:)	Justify why a grower would use physical methods of weed control in a vegetable garden. Compare and contrast these methods with chemical methods.	
	In your answer consider:	
	how the weeds could be removed or controlledhow the weeds affect plant growth	
	crop yield and plant production.	

More space for this answer is available on the next page ➤

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QUESTION TWO: APPLES	ASSESSOR'S USE ONLY
Apple trees need to be pruned every year during winter.	
Apple trees in winter	
(a) Explain how to prune apple trees, and why pruning is done in winter.	

Mulch is often placed under the apple trees.

(b)

Describe why mulch is used, and explain how it helps plant growth and fruit production.	
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Coc	lling moth larva damage	Mastrus ridens wasp	
Justify apples		d a chemical pesticide to control codling moth in	
n your	answer consider:		
	ow chemical and biological contro	ols work	
	ne effectiveness of each method he impact on apple production and	4.3.14	
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QUESTION THREE: GROWING FLOWERS

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Stopping is a common management practice carried out by growers of chrysanthemums. Chrysanthemums in glasshouses Describe how stopping is carried out, and explain how this affects plant growth. (a) (b) Flowering plants, like all plants, need water. Describe how water enters and moves through the plant, and explain the effect it has on plant processes.

Most flowers grown for the cut flower market are grown inside glasshouses all year round where ASSESSOR'S USE ONLY light, temperature, humidity, and carbon dioxide can be controlled. Justify growing flowers inside a glasshouse. (c) In your answer consider: how the growing conditions can be altered in a glasshouse the effect on plant processes the effect on production and flower quality.

More space for this answer is available on the next page ➤

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QUESTION NUMBER				

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QUESTION NUMBER	Write the question number(s) if applicable.	
NUMBER		

Acknowledgements

Material from the following sources has been adapted for use in this examination:

Page 2

Image: https://www.hirerush.com/blog/how-to-start-a-vegetable-garden/

Page 5

Image: http://kentuckyhomegardens.blogspot.com/2010/04/pruning-fruit-trees.html

Page 6

Image: https://www.britannica.com/animal/apple-maggot

https://www.farmonline.com.au/story/3592663/wasp-puts-sting-into-moth/

Page 8

Image: https://wagwalking.com/condition/chrysanthemum-poisoning

https://www.123rf.com/photo_38969312_large-greenhouse-or-a-specialized-dutch-cut-flower-nursery-

with-lots-of-flowering-yellow-chrysanthem.html