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90924



Level 1 Agricultural and Horticultural Science, 2011

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

9.30 am Thursday 17 November 2011 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 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 2–11 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

You are advised to spend 60 minutes answering the questions in this booklet.

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QUESTION ONE: PEST, WEED AND DISEASE CONTROL IN PUBLIC GARDENS

Aphids are sucking insect pests that attack roses and reduce plant growth.

Aphids on rose bush

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Source: http://4.bp.blogspot.com/

- (a) Aphids can be controlled by chemical sprays.
 - (i) Describe a step that should be used when applying chemical sprays in parks and public gardens for each of the following stages.

Before spraying:	
During spraying:	
After spraying:	

(ii) Explain how sucking insect pests affect photosynthesis.

Include in your answer:

- the plant parts that carry out photosynthesis
- what is required for photosynthesis to occur
- the products of photosynthesis.

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lack spo	ens.
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s (i)	ource: http://blogs.cce.cornell.edu/ Describe the type of weather and seasons that allow fungal diseases such as black spot to become a problem.
(ii)	Explain a non-chemical method that gardeners can use to prevent the spread of fungal diseases.

vee	ect <i>EITHER</i> of the following as the best management practice for the gardeners to reduce ds:
	spray with a herbicide
	cultivate with a hoe (dig the weeds out).
Sele	ected management practice:
	ify your selected management practice by comparing and contrasting it with the other agement practice.
nclı	ude in your answer:
	the effect weeds have on desired plants (such as roses)
	how effective each management practice is in reducing weeds
	long-term ease of management in a public park.

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QUESTION TWO: PRUNING

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Step One	
Description:	
	Diagram (optional)
Explanation:	
Step Two Description:	
Explanation:	
Step Three	
Description:	
	Diagram (optional)
Explanation:	

(b)

	late autumn late winter.
ele	cted time of year:
usti ear.	fy your selection by comparing and contrasting its benefits with those of the other time of
	de in your answer:
	growth of the rose plant after pruning seasonal/weather conditions.
	seasonar weather conditions.

QUESTION THREE: IRRIGATION

(a)

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Irrigation is required over the summer months to replace water lost through evaporation and transpiration.

•	lain how the following are involved in transpiration: the external plant structures used by plants to absorb (take up) water internal structures which move water through and then out of the plant.
	lain how irrigation improves plant growth in a park. Include in your answer THR
-	ortant functions that water allows to be carried out by plants.
-	ction One:
-	, ·
-	, ·
Fun	, ·
Fun	ction One:
Fun	ction One:
Fun	ction One:
Fun	ction One: ction Two:

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Select ONE of these options as being the most effective for irrigating roses in a park. Selected type of irrigation:	For copyright reasons, this resource this resource cannot be reproduced here. Source: http://img241.imageshack.us/ Select ONE of these options as being the most effective for irrigating roses in a park. Selected type of irrigation: Justify your selection by comparing and contrasting its benefits with those of the other option. Include in your answer: effect on plant growth	For copyright reasons, this resource this resource cannot be reproduced here. Source: http://img241.imageshack.us/ Select ONE of these options as being the most effective for irrigating roses in a park. Selected type of irrigation: Justify your selection by comparing and contrasting its benefits with those of the other option. Include in your answer: effect on plant growth	For copyright reasons, this resource this resource cannot be reproduced here. Source: http://img241.imageshack.us/ Select ONE of these options as being the most effective for irrigating roses in a park. Selected type of irrigation: Justify your selection by comparing and contrasting its benefits with those of the other option. Include in your answer: effect on plant growth	Pop-up sprinkler	
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				Select ONE of these options as b	
				Select ONE of these options as be Selected type of irrigation: Justify your selection by comparing Include in your answer: effect on plant growth	ng and contrasting its benefits with those of the other option.

QUESTION NUMBER	I	Write the	e if required. Imber(s) if app	plicable.		ASSESSOR'S USE ONLY
NUMBER						

QUESTION NUMBER	Write the	Extra space question i	ce if require number(s) i	ed. f applicable		ASSESSOR'S USE ONLY
NUMBER						