

# **Environmental and Land-based Science**

General Certificate of Secondary Education

Unit **B492/02**: Amenity Horticulture (Higher Tier)

## **Mark Scheme for June 2011**

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

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Abbreviations, annotations and conventions used in the detailed Mark Scheme.

- / = alternative and acceptable answers for the same marking point
- (1)** = separates marking points
- not** = answers which are not worthy of credit
- reject** = answers which are not worthy of credit
- ignore** = statements which are irrelevant
- allow** = answers that can be accepted
- ( ) = words which are not essential to gain credit
- = underlined words must be present in answer to score a mark
- ecf = error carried forward
- AW = alternative wording
- ora = or reverse argument

Question		CBT Question numbers	Expected Answers	Marks	Additional Guidance
1		1	more space for plants to develop; weak or diseased plants are removed	2	
2		2	<b>D</b> more cost effective	1	
3		3	thermostat	1	
4		4	control is more rapid one spray will control a wide range of problems.	2	
5		5	increase in weed growth reduction of fine leaved grasses	2	
6		6	<b>A</b> chemical <b>B</b> mechanical <b>C</b> cultural <b>D</b> cultural	2	2 correct – 1 mark 3 or 4 correct – 2 marks
7		7	reduction in labour costs; staff can work more sociable hours; closer control over growing conditions; efficient use of time	2	<b>accept</b> use fewer staff or wtte <b>reject</b> make more profit without clarification
8		8	two from: more cost effective in the long term; less labour in replanting/ only need to plant once; wider range of varieties/form	2	
9		9	hover; steep banks	2	<b>accept</b> difficult to manoeuvre places
10		10	the cause of the fuse blowing is still there.	1	<b>accept</b> larger current increases the size of the hazard <b>accept</b> reference to larger amount of electricity in machine causing a surge owtte

Question		CBT Question numbers	Expected Answers	Marks	Additional Guidance
11		11	risk of propagating diseased plants ie those with viruses; more skill needed; may be slow; production numbers may be more limited by amount of stock material	3	<b>accept</b> lack of genetic variation
12	a	12	best: 'Fleur' worst : bleach	2	
	b (i)	13	performance almost as good as 'Fleur'/ better than most others;	1	
	b (ii)	13	the stems are getting sugars from the lemonade	1	<b>accept</b> relationship to carbon dioxide bubbles and photosynthesis other reasonable explanation will be considered.
	c	14	2 from: life of the roses in both solutions is the same length; only one difference in scores; the scale is subjective	2	
	d	15	repeat the test to check the results / fair test; try the treatments on other flowers	2	
13		16	use by trained/authorised people only; PAT testing/ inspection of equipment; use of RCD or circuit breaker; ensure leads are not a hazard in work area	2	<b>reject</b> be careful <b>accept</b> other qualified answers
14		17	three from: avoids destruction of natural habitats for extraction; peat is a limited resource; use of alternative (green) waste reduces landfill; prevents release of locked CO <sub>2</sub> into atmosphere; peat in itself has no nutritional value for plants; if peat dries out it is hard to re-wet	3	<b>reject</b> not environmentally friendly unless qualified.

Question		CBT Question numbers	Expected Answers	Marks	Additional Guidance
15		18	three from: harm beneficial (other) organisms; leaching into soil; residues in plants; harm humans; might not control the problem	3	<b>reject</b> not environmentally friendly or concepts of upsetting the natural balance <b>reject</b> kills the plants <b>accept</b> damage to plant/growth
			<b>Total</b>	<b>36</b>	

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