

GCSE

Environmental and Land Based Science

Unit **B683/01**: Commercial Horticulture, Agriculture and
Livestock Husbandry (Foundation Tier)

General Certificate of Secondary Education

Mark Scheme for June 2018

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

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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Annotations

Used in the detailed Mark Scheme:

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

Available in RM Assessor to annotate scripts

	indicate uncertainty or ambiguity
	benefit of doubt
	contradiction
	incorrect response
	error carried forward
	draw attention to particular part of candidate's response
	draw attention to particular part of candidate's response
	draw attention to particular part of candidate's response
	no benefit of doubt

	reject
	correct response
	draw attention to particular part of candidate's response
	information omitted

Subject-specific Marking Instructions

- a. If a candidate alters his/her response, examiners should accept the alteration.
- b. Crossed out answers should be considered only if no other response has been made. When marking crossed out responses, accept correct answers which are clear and unambiguous.

E.g.

For a one mark question, where ticks in boxes 3 and 4 are required for the mark:

Put ticks (✓) in the two correct boxes.

<input type="checkbox"/>
<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>

This would be worth 1 mark.

Put ticks (✓) in the two correct boxes.

<input type="checkbox"/>
<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>

This would be worth 0 marks.

Put ticks (✓) in the two correct boxes.

<input checked="" type="checkbox"/>
<input type="checkbox"/>

This would be worth 1 mark.

- c. The list principle:
 If a list of responses greater than the number requested is given, work through the list from the beginning. Award one mark for each correct response, ignore any neutral response, and deduct one mark for any incorrect response, e.g. one which has an error of science. If the number of incorrect responses is equal to or greater than the number of correct responses, no marks are awarded. A neutral response is correct but irrelevant to the question.

- d. Marking method for tick boxes:

Always check the additional guidance.

If there is a set of boxes, some of which should be ticked and others left empty, then judge the entire set of boxes. If there is at least one tick, ignore crosses. If there are no ticks, accept clear, unambiguous indications, e.g. shading or crosses. Credit should be given for each box correctly ticked. If more boxes are ticked than there are correct answers, then deduct one mark for each additional tick. Candidates cannot score less than zero marks.

E.g. If a question requires candidates to identify a city in England, then in the boxes

Edinburgh	
Manchester	
Paris	
Southampton	

the second and fourth boxes should have ticks (or other clear indication of choice) and the first and third should be blank (or have indication of choice crossed out).

Edinburgh			✓			✓	✓	✓	✓	
Manchester	✓	x	✓	✓	✓				✓	
Paris				✓	✓		✓	✓	✓	
Southampton	✓	x		✓		✓	✓		✓	
Score:	2	2	1	1	1	1	0	0	0	NR

Question			Answer	Marks	Guidance
1	a	i	a) Hydrangea b) Acer c) Beech d) Buddleia	3	3 or 4 correct – 3 marks 2 correct – 2 marks 1 correct – 1 mark
		ii	tick in the box next to “deciduous”	1	
	b		ring around “perennial”	1	
2			tick in box next to “Soluble particles.....”	1	
3			<p>[Level 3] Explains a good range of the features of animal housing and relates these to the health of the named animal. Quality of written communication does not impede communication of the science at this level. (5-6 marks)</p> <p>[Level 2] Explains some of the features of animal housing and relates these in part to animal health. Quality of written communication partly impedes communication of the science at this level. (3-4 marks)</p> <p>[Level 1] Describes some of the features of animal housing. Quality of written communication impedes communication of the science at this level. (1-2 marks)</p> <p>[Level 0] Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p>This question is targeted at grades up to E:</p> <p>Indicative scientific points may include:</p> <ul style="list-style-type: none"> • Size being sufficient to allow the animal free movement • Ventilation being sufficient to prevent respiratory disease • Comfortable temperature appropriate to that animal reduce likelihood of illness • No draughts which can lead to chills • Clean/easy to clean, animal housing to reduce breeding ground for pests and disease • Lighting sufficient to allow normal behaviour • Dry reduces likelihood of disease • Allows easy inspection of animals to check for problems • Provides protection from predators • Access to clean food/water • Bedding • Allow descriptions of particular types of animal housing and the materials used in construction. <p>Use the L1, L2, L3 annotations in RM Assessor; do not use ticks</p>

Question		Answer	Marks	Guidance
4		any three from: vehicle must be: safe; secure; of sufficient size for the number of animals; animals must be: in good condition for transport; given breaks; given food; given water; handled carefully to reduce stress;	3	ALLOW legal requirements met e.g. movement licence, qualified drivers etc.
5	a	Fuchsia	1	
	b	any three from: colourful; trailing; drought resistant; wind resistant; quick growing	3	
	c	adding gel (to retain water); addition of (slow release) fertiliser;	1	
6		can result in inbreeding; leads to concentration of undesirable genes;	2	ALLOW ref. to breeding for one feature affecting another e.g. high milk yield in Holsteins resulting in udders which drag on the ground
7	a	£158.20 ✓✓ Or £159.60	2	39.65m ² (1 mark) 39.65 x £3.99 = £158.20 ALLOW 40m ² x £3.99 = £159.60 as you wouldn't normally buy fractions of a metre.
	b	Yes... it saves £18.20 ✓	1	Yes/No (0 marks) ecf

Question	Answer	Marks	Guidance
c	<p>[Level 3] Explains in detail soil preparation, laying of turf and its aftercare in the correct sequence. Quality of written communication does not impede communication of the science at this level. (5-6 marks)</p> <p>[Level 2] Explains some of the stages of producing a lawn from turf. Quality of written communication partly impedes communication of the science at this level. (3-4 marks)</p> <p>[Level 1] Describes some of the stages of producing a lawn from turf. Quality of written communication impedes communication of the science at this level. (1-2 marks)</p> <p>[Level 0] Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p>This question is targeted at grades up to E</p> <p>Indicative scientific points may include:</p> <p>Stage 1: preparation of soil</p> <ul style="list-style-type: none"> • Removal of rubble to prevent uneven growth • Removal of perennial weeds either mechanically or chemically (non-persistent weed killer) • Level the site, use pegs and spirit level • Level off bumps into hollows with a rake/spade • Drain the site if needed either with soakaway or plastic/tile drains • Dig the site and incorporate organic material, sand and gravel on clay • Firm the soil • Check levels using plank/ladder or true lute • Apply fertiliser raked lightly into the surface <p>Stage 2: Laying turf</p> <ul style="list-style-type: none"> • Carry out in spring/autumn when less likelihood of drought • Choose good quality weed free turf • Lay first row of turf down edge of lawn • Lay second row cutting one turf in half to avoid continuous joins across the lawn • Work on plank to avoid causing low points by compaction • Fill cracks with soil • Trim edges <p>Stage 3: Aftercare</p> <ul style="list-style-type: none"> • Water as needed • Selective weed killer • Fertiliser <p>Use the L1, L2, L3 annotations in RM Assessor; do not use ticks</p>

Question		Answer	Marks	Guidance
8	a	888 (litres) ✓	1	
	b	89p ✓	1	ALLOW £0.89 or .88.8p ecf
9	a	80 ✓	1	
	b	average correctly plotted ✓	1	ALLOW ecf
	c	147p (£1.47)	1	units required
	d	It costs more to shear Herdwicks than the fleece is worth; OWTTE	1	ALLOW ecf
	e	any two from: selling the lambs; the value of the meat; farm visits; breeding for sale; sheer own sheep, sheep's milk ;	2	ALLOW showing if qualified
10	a	2011	1	
	b	35p/kg (+/- 2p)	1	
	c	wool has become more valuable; it is difficult to predict future prices; OWTTE	2	
11		ring around "Soil-based" ✓	1	

Question	Answer	Marks	Guidance
12	<p>[Level 3] Explains a range of situations and links these to particular types of mowers appropriate to that use. Quality of written communication does not impede communication of the science at this level. (5-6 marks)</p> <p>[Level 2] Explains some situations with reference to particular mower types. Quality of written communication partly impedes communication of the science at this level. (3-4 marks)</p> <p>[Level 1] Links a mower type with a brief explanation of its appropriate use. Quality of written communication impedes communication of the science at this level. (1-2 marks)</p> <p>[Level 0] Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p>This question is targeted at grades up to C</p> <p>Indicative scientific points may include:</p> <ul style="list-style-type: none"> • Purpose and use of the lawn • Size of the lawn to be mown • Finish required • Nature of the grass on site, rough grass, fine lawn • Slope • Drainage • Safety • Availability of electricity • Auto-collection of grass or not • Cost of the various types <p>Mower Specifics-</p> <p>Mower A - Cylinder mower, petrol driven so can be used away from power sources, Fine cut suitable for sports fields or specimen lawns, leaves stripes, collects the grass.</p> <p>Mower B - Ride on , petrol driven, suitable for large areas such a outfields in sports grounds, public parks and amenity areas, rotary blade can cope with tough grass.</p> <p>Mower C - Hover mower, petrol driven so can be used away from power sources, small and relatively cheap so suitable for family lawns, rotary blade can cope with tough grass, being a hover can cope with slopes and uneven ground.</p> <p>Mower D - Electric rotary mower, suitable for small family lawns, lightweight, easy to store, not expensive.</p> <p>Use the L1, L2, L3 annotations in RM Assessor; do not use ticks</p>

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