

Environmental and Land-Based Science

General Certificate of Secondary Education

Unit **B495/02**: Livestock Husbandry (Higher Tier)

Mark Scheme for January 2012

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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.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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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 scoris 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.

Eg

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

Put ticks (✓) in the two correct boxes.

✗
✗

This would be worth 1 mark.

Put ticks (✓) in the two correct boxes.

✓
✗

This would be worth 0 marks.

Put ticks (✓) in the two correct boxes.

✗
✗
✓
✓

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, eg 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, eg 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.

Eg 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

MARK SCHEME:

Question	CBT Question Numbers	Answer	Mark	Guidance
1	1	C	1	
2	2	1. selection of donor animal(given) 2. super ovulation of donor animal 3. artificial insemination of donor animal 4. surgical removal of embryos 5. storage of embryos (given) 6. transfer of embryos to surrogate mothers 7. birth(given)	2	2 correct = 1 mark 3/4 = 2 marks
3	3	B – tuberculosis (TB)	1	
4	4	B	1	
5	5	C - genotype	1	
6	6	C – meadow hay	1	
7	7	round worm - internal parasite ring worm – fungus lice - external parasite mastitis - bacteria	2	all correct 2 marks 2 correct 1 mark
8	8	damp /humid ; cold; draughty; dirty; poor ventilation; crowded: get too hot; foot damaged by being on concrete	3	any 3 allow accumulation of stale food
9	9	breeding sow would require a higher production ration to support the developing pigs; a breeding boar would require a maintenance ration only to prevent him putting on weight OWTTE	2	accept references to composition of the diet
10	(a)	10 age; bloodline; boars used on her; numbers of litters; performance of offspring; health records; dates of births; times of heat; dates of matings	3	any 3. weight only if related to breeding
	(b)	11 control of temperature; control of food supply; cleaning out; automated gates; CCTV monitoring of pigs; pig identification; light levels; scanning	2	any 2
11	12	hybrid vigour	1	

Question		CBT Question Numbers	Answer	Mark	Guidance
12	(a)	13	freezing (in liquid nitrogen)	1	
	(b)	13	more females impregnated per ejaculation OWTTE	1	
13	(a)	14	30 days +/- 5 days	1	
	(b)	14	80 days +/- 5 days	1	
	(c)	14	147 days +/- 5 days	1	
14	(a)	15	falling progesterone causes onset of labour, progesterone- increases in the first few weeks then drops; rises again until the last few weeks of the pregnancy then fall quickly	1	need hormone and good explanation for the mark
	(b)	16	increasing estradiol causes onset of labour estradiol – constant for the majority of the pregnancy then increases in the last 2 weeks	1	need hormone and good explanation for the mark
	(c)	17	prolactin – causes start of milk production prolactin – only present in the first and last weeks of the pregnancy	1	need hormone and good explanation for the mark
15		18	in extensive conditions piglets more likely to get trodden on or squashed by the mother as she is not restrained; sick piglets are more likely to be missed by the farmer under extensive conditions; piglets exposed to harsher weather in extensive systems	2	any 2 points reject 1 word answers

Question		CBT Question Numbers	Answer	Mark	Guidance
16	(a)	19	one hazard with recommendation per mark. Wire – trip hazard/electrocution – fix cable out of way/use RCD; eye injury – goggles; loan worker – have additional staff present; animal held secure – check fixing ropes; hand washing/ gloves – disease prevention max 3 marks	3	any PPE if reasons given maximum of 2 marks for PPE
	(b)	20	animal must be healthy; vehicle must have been cleaned and disinfected; needs to carry a movement licence fully completed; passport will need to be taken; animal must not be subject to a six day standstill; bull will need identification tags; as over 65km the driver will need certification; if journey over 8 hours vehicle will need to be approved; BCMS will need to be notified within 3 days of the movement; incline of the tail-board; sufficient space in the trailer.	3	mark as level of response
			Total	36	

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