



**General Certificate of Secondary Education
2018**

Agriculture and Land Use

Unit 2

Animals on the Land

[GAR21]

THURSDAY 7 JUNE, AFTERNOON

**MARK
SCHEME**

General Marking Instructions

Introduction

Mark schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of students in schools and colleges.

The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes, therefore, are regarded as part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

			AVAILABLE MARKS	
1	(a)	(i) A uterus B vagina C ovary	[3]	9
		(ii) I: at cervix	[1]	
		(iii) F: in the oviduct	[1]	
	(b)	Any two from: less work for farmer; less stressful for animal; no specialist equipment; no training/no expertise required; straws are expensive; higher success rate	[2]	
	(c)	In order (C given): C E D A B (3–4 correct = [2], 1–2 correct = [1])	[2]	
2	(a)	(i) Any three from: light/day length; age; health; diet; stress	[3]	6
		(ii) 200–350 eggs	[1]	
	(b)	Any two from: humidity; ventilation/oxygen; good hygiene; turning	[2]	
3	(a)	(i) cattle: mastitis pigs: pneumonia poultry: salmonella – diarrhoea/weight loss/purple combs/AVP	[4]	9
		(ii) Any two from: TB; brucellosis; BVD	[2]	
	(b)	Any three from: disinfectant pool for vehicles; only allow authorised personnel; clean and disinfect poultry house; clean clothing/personal hygiene; prevent entry of wildlife; vermin control; foot wash for workers; vaccinate; remove weak or dead hens	[3]	
4	(i)	both start at same weight; pig A increases faster; both pigs increase in weight; valid data reference	[2]	6
		20 kg	[2]	
		Any two from: gender; breed; pregnancy; diet; health; choice of system or any valid point	[2]	
5	(a)	(i) Any two from: manure; excess fertiliser; dirty yard water; silage effluent; plastic	[2]	
		(ii) Any two from: dribble bar; trailing shoe; downward splash plate; slurry injection (not umbilical, not spray)	[2]	

		AVAILABLE MARKS
	(iii) slurry runs into waterway; algal bloom; sunlight blocked; algae then die; bacteria/decomposers; use up oxygen [3]	
(b)	(i) Any one from: less storage/less transporting/less spreading on the land/creates habitats; removes nitrates [1]	
	(ii) Any one from: cost of set up/uses up land/expertise required/maintenance costs [1]	9
6	(a) (i) Any three from: filtered; cooled; agitated; tested/sampled [3]	
	(ii) pasteurisation: heating; cooling; allow specific details; [2] homogenisation: passed through tiny jets; break up fat; allow specific data/details [2] [4]	
	(b) Any two from: antibiotics; bacteria count/cell count; water content; protein/butterfat [2]	9
7	Answer must include: <ul style="list-style-type: none"> • Outline how you would ensure the animals are eligible to go to the market: animals must be fit and healthy; correctly tagged; must have movement permits/passports completed; target weight/appearance; withdrawal periods • Describe the safe loading of the animals: safe handling facility; escape route for handler; approach animals calmly; allow animals to see handler; another person present; load bay must be secure • Transport of animals at long distances: trailer must be roadworthy/vehicle roadworthy; trailer must not be overloaded; adequate ventilation; no overcrowding; limit on transport time; appropriate bedding; provide water/feed; slurry tank on trailer 	

Band	Response	Mark
3	Candidates demonstrate a detailed and comprehensive knowledge and understanding of at least two ways to ensure animals are ready for sale. Candidates discuss in detail at least two ways to safely approach and load the animals and three requirements for transporting animals over long distances. Quality of written communication is excellent. Relevant material is organised with a high degree of clarity and coherence. Presentation, spelling, punctuation and grammar are of a high standard with appropriate use being made of specialist vocabulary.	[7]–[9]
2	Candidates demonstrate an adequate knowledge of at least one way to ensure animals are ready for sale. Candidates discuss in detail at least one way to safely approach and two requirements for transporting animals over long distances. Quality of written communication is good. Relevant material is organised with some clarity and coherence. Presentation, spelling, punctuation and grammar are of a reasonable standard to make meaning evident. There is some use being made of specialist vocabulary.	[4]–[6]
1	General statements about the safe movement of animals. Quality of written communication is basic. The organisation of the material lacks clarity and coherence. Presentation, spelling, punctuation and grammar are at a basic level with little use of specialist vocabulary.	[1]–[3]
	No creditable comments	[0]

[9]

9

8 (a) (i)

Feed Type	Forage	Roughage	Concentrate
Straw		✓	
Oats			✓
Silage	✓		

[3]

- (ii) 1. meal
2. haylage
3. straw

three correct = [2], two correct = [1]

[2]

(b) $5/25 \times 100 = 20$ kg

[2]

(c) Any **two** from:

cost; scouring; poor rumen function; acidosis; bullying; animal becomes over fat/calving problems

[2]

9

- 9 symptoms: swollen jaw; loss of condition; anaemia; death; abnormal behaviour
 treatment: flukicide/anthelmintics (allow drench)
 prevention: drain ground; grazing rotation; break life cycle; winter in-housing;
 quarantine new animals; move stock off wet land; monitoring stock;
 cull infected stock
 impact: increased veterinary/drug costs; loss in productivity; reduced profits;
 more labour/management cost; loss of breeding stock

Band	Response	Mark
3	Candidates demonstrate a detailed and comprehensive knowledge of liver fluke disease. They should include at least two symptoms and at least three ways to prevent the disease. Candidates should discuss in detail two impacts on the farm business. Quality of written communication is excellent. Relevant material is organised with a high degree of clarity and coherence. Presentation, spelling, punctuation and grammar are of a high standard with appropriate use being made of specialist vocabulary.	[7]–[9]
2	Candidates demonstrate an adequate knowledge of liver fluke disease. They should include one symptom, two ways to prevent the disease and one impact on the farm business. Quality of written communication is good. Relevant material is organised with some clarity and coherence. Presentation, spelling, punctuation and grammar are of a reasonable standard to make meaning evident. There is some use being made of specialist vocabulary.	[4]–[6]
1	General statements about liver fluke disease. Quality of written communication is basic. The organisation of the material lacks clarity and coherence. Presentation, spelling, punctuation and grammar are at a basic level with little use of specialist vocabulary.	[1]–[3]
	No creditable comments	[0]

[9]

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Total**75**AVAILABLE
MARKS