Government of **Western Australia**
School Curriculum and Standards Authority

SAMPLE ASSESSMENT TASKS

ANIMAL PRODUCTION SYSTEMS
GENERAL YEAR 11

Sample assessment task

Animal Production Systems – General Year 11

Task 3 — Unit 1

Assessment type: Production project

Conditions
Period allowed for completion of the task: 2 weeks

Task weighting
5% of the school mark for this pair of units

ANIMAL WELFARE TASK

Task description: This task concentrates on the fundamental animal welfare principles and practices in a selected production system. Students will develop an understanding of animal health and wellbeing, and suggest positive welfare strategies for their enterprise. **(57 marks)**

Selected Animal Production System: _____

Background

1. Describe what is meant by 'the five freedoms of animal welfare'. Identify why they are important in the livestock industry. (4 marks)
2. Identify three times during the year (or production cycle) when the welfare of your animals is at greater risk. For each time, explain why the risk is greater. (9 marks)

Applying animal welfare principles in a production system

Examine how each welfare principle below is applied in your selected animal production system (i.e. turning the five freedoms into practice).

3. Animal welfare principle: Providing adequate food and water

   For a class of your selected animal type, identify:

   a) the daily energy requirements (state the source of your information) (2 marks)
   b) two feed types to supply the required energy (2 marks)
   c) the daily water requirement (quantity and quality) and how it is supplied (3 marks)
   d) the difference between requirements (energy, nutrition, water) in intensive and extensive production systems. (3 marks)

4. Animal welfare principle: Providing an appropriate environment

Describe how the environment is managed to maximise comfort (and productivity) during the production cycle. Include information on:

a) space allocation (e.g. stocking rate) (2 marks)
b) weather (or climate, if housed) (2 marks)
c) types of behaviours that indicate when your animals are content (2 marks)
d) types of behaviours that indicate when your animals are stressed. (2 marks)

5. Animal welfare principle: Preventing pain, injury and disease

Select one factor from pain, injury or disease and discuss:

- one situation in your enterprise when it could be experienced by animals (1 mark)
- how affected animals could be identified (2 marks)
- how it could be prevented (2 marks)
- how it could be managed if it is present. (2 marks)

6. Animal welfare principle: Allowing animals to express normal behaviour and minimising their fear

Go to the Department of Education's School Animal Ethics Committee website
http://www.det.wa.edu.au/curriculumsupport/animalethics

a) Under the species information tab, select the species used in your enterprise, and in your own words describe the normal behaviour for this type of animal. (2 marks)
b) Using an example, describe **five** ways your animal handling facilities work with the animal's behaviour to minimise stress. (5 marks)
c) Outline how your enterprise encourages staff to use positive welfare strategies. (3 marks)

Observation of animals

7. Record the activities of your animals – attach as an appendix

a) Prepare a record sheet – include location, time, weather conditions and observed behaviours. (This can be done in a spread sheet if you wish.) (2 marks)
b) Observe your animals for at least 20 minutes and make notes on their behaviour. Include feeding and drinking, movement, and interactions with other animals. (3 marks)
c) Repeat the activity on another day in different environmental conditions and compare your observations on the two days. (4 marks)

Marking key for sample assessment task 3 – Unit 1

1. Describe what is meant by 'the five freedoms of animal welfare'. Identify why they are important in the livestock industry.

Description	Marks
Description of what is meant by the 'five freedoms of animal welfare' • the physical and mental state of an animal's welfare • implies fitness and sense of wellbeing	1–2
Discussion of their importance to the livestock industry • provides a framework for provision of welfare • provides actions to safeguard/improve animal welfare within constraints of a livestock industry	1–2
Total	**/4**

2. Identify three times during the year (or production cycle) when the welfare of your animals is at greater risk. For each time, explain why the risk is greater.

Description	Marks
Identifies three times during the year or production cycle when animal welfare is at greater risk (one mark for each time)	1–3
For each time, explains why these are times of greater risk (two marks for each risk)	1–6
Total	**/9**
Answer could include, but is not limited to:	
Example: sheep • lambing (1) – prey for predators (1) e.g. foxes (1) • autumn (1) – feed gap, supplementary feeding may be needed (2) • winter (1) – may suffer hypothermia (1) e.g. lambs (1) • spring (1) – flies breed (1), causes fly strike (1) • summer(1) – heart stress, dehydration, feed gap (2) • husbandry events, such as post-shearing (1) (unexpected cold weather (1), hypothermia due to loss of insulation (1)), mulesing (1) (risk of infection(1)), sterilisation (1) (risk of infection(1)), lamb marking (1)	

3. Animal welfare principle: Providing adequate food and water

For a class of your selected animal type, identify:

a) the daily energy requirements (state the source of your information)

Description	Marks
States daily energy requirements	1
States the source of information	1
Total	**/2**
Answer could include, but is not limited to:	
Example: sheep	

Stage of production (sheep)	Energy requirement (MJ/day)
Dry sheep – 40 kg	7.6
Dry sheep – 50 kg	8.5
Weaner < 20 kg	4.1
Weaner > 25 kg	6.0
Ewe – 50 kg, mid-pregnancy	11.5
Ewe – as above but with twins	13.2
Ewe – 50 kg, lactating	17.0
Ewe – as above but with twins	19.5

b) two feed types to supply the required energy

Description	Marks
Identifies two feed types (one mark each type)	1–2
Total	**/2**
Answer could include, but is not limited to:	
Example: hay, pellets, grains, silage	

c) the daily water requirement (quantity and quality) and how it is supplied

Description	Marks
Identifies the water quantity requirement	1
Identifies the water quality requirement	1
Identifies the method of supply	1
Total	**/3**
Answer could include, but is not limited to:	
Example: sheep Weaners 2–4 L per day; Adult dry sheep 2–6 L per day; ewes with lambs 4–10 L per day Clean, fresh and reliable water supply (salinity, pH, toxic elements, algae growth, temperature) Dams, troughs, creeks	

d) the difference between requirements (energy, nutrition, water) in intensive and extensive production systems.

Description	Marks
Discusses differences between intensive and extensive systems (one mark each) • energy • nutrition • water	1–3
Total	**/3**

Answer could include, but is not limited to:

Intensive	Extensive
Energy requirements are less due to constricted space	Energy requirements are large due to movement of animals in a large space foraging for food
100% reliant on hand-feeding Nutrition consists of rations with high energy food (up to 85% with grain being the main component)	Some proportion of nutrients obtained from pasture Nutrition less controlled
High water requirements due to the high energy content of the food	Water requirements less/dependent on pasture and weather

4. Animal welfare principle: Providing an appropriate environment

Describe how the environment is managed to maximise comfort (and productivity) during the production cycle. Include information on:

a) space allocation (e.g. stocking rate)

Description	Marks
Recognition that stocking rate is based on pasture availability and energy requirements	1–2
Total	**/2**

Answer could include, but is not limited to:

Example: sheep
The carrying capacity of sheep on pasture is based on the average annual feed availability and is expressed in terms of Dry Sheep Equivalent/hectare (DSE rating). One DSE is the amount of feed required to maintain a 50 kg wether. A cross-bred ewe with a five-week-old lamb has a DSE rating of 2.9.

b) weather (or climate, if housed)

Description	Marks
Describes action taken to manage stock in adverse weather conditions/provide comfort	1–2
Total	**/2**

Answer could include, but is not limited to:

Example: sheep
Open pastures:
Shelter to provide shade and protection from cold, windy and wet weather (especially for newborn lambs and newly-shorn sheep), wind breaks
Pens:
Ensure slatted floors do not cause cold, draughty conditions.
Provide sufficient ventilation to avoid humid or damp conditions.

c) types of behaviours that indicate when your animals are content

Description	Marks
Describes animal behaviours indicating comfort, e.g. feeding, drinking, movement	1–2
Total	**/2**
Answer could include, but is not limited to:	
Feed and drink regularly Rumination Move and respond as groups	

d) types of behaviours that indicate when your animals are stressed.

Description	Marks
Describes animal behaviours indicating stress e.g. feeding, drinking, movement	1–2
Total	**/2**
Answer could include, but is not limited to:	
Example: sheep Do not feed or drink regularly Become extremely agitated Positioned away from the main flock	

5. Animal welfare principle: Preventing pain, injury and disease

Select one factor from pain, injury or disease and discuss:

- one situation in your enterprise when it could be experienced by animals
- how affected animals could be identified
- how it could be prevented
- how it could be managed if it is present

Description	Marks
Identifies an appropriate situation for selected animal production system	1
Describes symptoms of a pain, injury or disease	1–2
Describes prevention methods	1–2
Describes management strategies	1–2
Total	**/7**
Answer could include, but is not limited to:	
Example: sheep Disease: Chooses a disease (mastitis, bloat, internal parasites, footrot and flystrike) Selects appropriate signs of illness • disorientation • lethargy • changed feeding habits • scouring • nervousness • ocular or nasal discharge • separation from or lagging behind the main body of the flock • lameness • ill-thrift or wasting • abnormal gait or a reluctance to rise. A failure to thrive or grow is another sign of illness.	

6. Animal welfare principle: Allowing animals to express normal behaviour and minimising their fear

Go to the Department of Education's School Animal Ethics Committee website http://www.det.wa.edu.au/curriculumsupport/animalethics

a) Under the species information tab, select the species used in your enterprise and in your own words describe the normal behaviour for this type of animal.

Description	Marks
Comprehensively describes normal behaviour for the selected species	1–2
Total	**/2**
Answer could include, but is not limited to:	
Example: sheep Sheep are flock animals, moving and responding as groups.	

b) Using an example, describe **five (5)** ways your animal handling facilities work with the animal's behaviour to minimise stress.

Description	Marks
Using an example, comprehensively describes how animal handling facilities work with animal behaviour to minimise stress (one mark per point)	1–5
Total	**/5**
Answer could include, but is not limited to:	
Example: sheep Minimise stress: • sheep have reasonable access to adequate and appropriate feed and water • welfare of sheep from threats, including extremes of weather, drought, fires, floods, disease, injury and predation • inspection of sheep at intervals • appropriate treatment for sick, injured or diseased sheep at the first reasonable opportunity • handle sheep in a reasonable manner • appropriate measures taken for tail docking/castration/mulesing procedures • minimum space allowances adhered to in intensive sheep production systems • humane killing of sheep	

c) Outline how your enterprise encourages staff to use positive welfare strategies.

Description	Marks
Outlines how the enterprise encourages staff to use positive welfare strategies	1–3
Total	**/3**
Answer could include, but is not limited to:	
Education/professional learning/VET qualification Provision of guidelines/display guidelines Modelling best practice Regular procedures e.g. checking sheep regularly according to production cycle (more often during lambing)	

7. Record the activities of your animals – attach as an appendix.

a) Prepare a record sheet – include location, time, weather conditions and observed behaviours. (This can be done in a spreadsheet if you wish.)

Description	Marks
Record sheet prepared with columns for location, time, weather conditions and observed behaviours	1
Record sheet allows adequate space for recording observations	1
Total	**/2**

b) Observe your animals for at least 20 minutes and make notes on their behaviour. Include feeding and drinking, movement, and interactions with other animals.

Description	Marks
Observations made on the following: • feeding and drinking • movement • interactions with other animals	1–3
Total	**/3**

c) Repeat the activity on another day in different environmental conditions and compare your observations on the two days

Description	Marks
Observations made under different environmental conditions	1
Differences between the two days are recorded	1–3
Total	**/4**

Sample assessment task

Animal Production Systems – General Year 11

Task 6 — Unit 1

Assessment type: Investigation

Conditions
Period allowed for completion of the task: 8 weeks

Task weighting
10% of the school mark for this pair of units

Chicken investigation **(73 marks)**

Plan and conduct an investigation into the productivity of two different breeds of poultry.

Raise two groups of day-old chicks (broilers and layers) to the age of six weeks. During this time, monitor and compare the growth rates of the two groups. You are required to produce an individual scientific report on the growth rates of the two groups at the end of the trial.

Planning the investigation

1. Discuss the different breeds being used in the investigation. Include:
   - the breeds selected for the investigation
   - information about breed origins
   - physical characteristics
   - productivity (e.g. egg laying capability). (8 marks)
2. State the aim of this investigation; i.e. what you are trying to find out. (2 marks)
3. Restate your aim as a hypothesis. (2 marks)
4. Identify:
   - the independent (varied) variable
   - the dependent (measured) variable
   - **three (3)** variables that need to be controlled in the investigation. (5 marks)
5. Identify what data will be collected and when, and the methods that will be used to collect the data. (3 marks)
6. Describe how your investigation will be conducted. Include:
   - a list of the materials and equipment (2 marks)
   - a diagram showing the layout of the investigation (3 marks)
   - a step-by-step outline of the procedure (3 marks)
   - how the three variables will be controlled (3 marks)
   - occupational, safety and health issues and how these will be addressed (2 marks)
   - animal welfare issues and how these will be addressed. (3 marks)

Conducting the investigation and collecting data

7. Conduct your investigation in a safe and organised manner. (5 marks)

8. Record your data and display in a table format. (6 marks)

Processing, representing and interpreting data

9. Calculate means for the data you obtained. (2 marks)

10. Graph the average growth data for each breed over the six week period. (6 marks)

11. Describe the results and identify any trends. (5 marks)

Conclusion

12. State whether your hypothesis was supported or not supported by the results. (2 marks)

13. Discuss the results (i.e. try to explain what you observed and measured) and explain any trends you found, and using science concepts, explain any trends you found. (6 marks)

14. Make a breed recommendation for chicken meat production. (1 mark)

15. Describe any aspect that could be improved upon if the investigation was conducted again, or, if you think no improvements are needed, explain why not. (4 marks)

Marking key for sample assessment task 6 – Unit 1

1. Discuss the different breeds being used in the investigation. Include:
   - the breeds selected for the investigation
   - information about breed origins
   - physical characteristics
   - productivity; (e.g. egg laying capability).

Description	Marks
Identifies the two breeds to be used in the investigation	1–2
Gives the origins for each breed	1–2
Describes the physical characteristics of each breed	1–2
States the productivity of each breed e.g. egg laying capacity	1–2
Total	**/8**

2. State the aim of this investigation i.e. what you are trying to find out.

Description	Marks
Clearly states an aim related to the investigation	1–2
Total	**/2**

3. Restate your aim as a hypothesis.

Description	Marks
States a hypothesis that describes the relationship between the dependent and independent variable • includes both the independent and dependent variable • written as a statement	1–2
Total	**/2**

4. Identify:
   - the independent (varied) variable
   - the dependent (measured) variable
   - **three (3)** variables that need to be controlled in the investigation.

Description	Marks
Correctly identifies the independent (varied) variable	1
Correctly identifies the dependent (measured) variable	1
Names three variables that need to be controlled in the investigation	1–3
Total	**/5**
Answer could include, but is not limited to:	
Independent variable – breed of chicken Dependent variable – growth rate, growth, mass Variables that need to be controlled: • relative size of chicks at the beginning of the investigation • type and amount of food provided • size of the pen (same amount of activity) • method used to measure the chicks e.g. same scales, same container • measurements taken at the same time/interval for both breeds	

5. Identify what data will be collected and when, and the methods that will be used to collect the data.

Description	Marks
States the data that will be collected	1
Describes how it will be collected	1–2
Total	**/3**
Answer could include, but is not limited to:	
Data collected – mass of chickens How it will be collected • frequency of measurements – timeline • each chicken will be placed in a container • each chicken will be weighed using electronic scales	

6. Describe how your investigation will be conducted. Include:
   - a list of the materials and equipment
   - a diagram showing the layout of the investigation
   - a step by step outline of the procedure
   - how the three variables will be controlled
   - occupational, safety and health issues and how these will be addressed
   - animal welfare issues and how these will be addressed.

Description	Marks
Identifies the materials and equipment required to conduct the investigation • specifies material and equipment • specifies quantity	1–2
Draws a layout of the investigation • clear drawing • accurate representation of the investigation • clearly labelled	1–3
Outlines the procedure • clearly set out step by step • provides detail of how each step will be conducted e.g. how will the chicks be identified for continuity of data collection • includes techniques to improve accuracy e.g. weighing the chicks	1–3
Describes how each of the three variables identified in the planning phase will be controlled	1–3
Identifies occupational and safety and health issues and how these will be addressed	1–2
Identifies any animal welfare issues and how these will be addressed	1–3
Total	**/16**
Answer could include, but is not limited to:	
Occupational, safety and health issues: • allergies/respiratory diseases (students) – use of masks • injuries – seek medical attention Animal welfare issues: • access to fresh water and a diet to maintain full health and vigour • appropriate housing to provide shelter and a comfortable resting place • rapid diagnosis and treatment of any pain, injury or disease • sufficient space, proper facilities and company of animal's own kind • conditions and treatment avoid mental suffering	

7. Conduct investigation in a safe and organised manner.

Description	Marks
Conducts investigative procedures in a safe, competent and methodical manner to collect valid and reliable data • equipment meets safety requirements • hygienic cages (cleaned regularly) • chicks are handled carefully to ensure freedom from fear and stress • chicks are measured at regular intervals as set out in the planning schedule • work space is left clean and tidy	1–5
Total	**/5**

8. Record your data in table format.

Description	Marks
Sufficient data is collected e.g. two measurements per week over the six weeks	1
Data is recorded in a well-organised table • column for the day/date/week • columns for each chick of each breed • title for table • units included in table	1–4
Data is accurate (within an expected range)	1
Total	**/6**

9. Calculate means for the data you obtained.

Description	Marks
Accurately calculates means for Breed 1 at each time interval	1
Accurately calculates means for Breed 2 at each time interval	1
Total	**/2**

10. Graph the average growth data for each breed over the six weeks.

Description	Marks
Correct axes: X axis – time (weeks), Y axis – mass (kg)	1
Correct scales for each axis (regular intervals)	1
Accurately plots data and joins appropriately	1
Accurate labels and units on each axis	1
Appropriate title for the graph	1
Selects a line graph	1
Total	**/6**

11. Describe the results and identify any trends.

Description	Marks
States growth pattern for Breed 1 with evidence from investigation	1–2
States growth pattern for Breed 2 with evidence from investigation	1–2
Identifies a trend (compares growth between the two breeds)	1
Total	**/5**

12. State whether your hypothesis was supported or not supported by the results.

Description	Marks
States whether results support hypothesis or not	1
Provides supporting statement based on results	1
Total	**/2**

13. Discuss the results (i.e. try to explain what you observed and measured) and using science concepts, explain any trends you found.

Description	Marks
Uses science concepts to explains similarities in growth rates between the two breeds	1–2
Uses science concepts to explains differences in growth rates between the two breeds	1–2
Refers to research from Question 1	1–2
Total	**/6**

14. Make a breed recommendation for chicken meat production.

Description	Marks
Recommends breed with highest growth rate	1
Total	**/1**

15. Describe any aspect that could be improved upon if the investigation was conducted again, or, if you think no improvements are needed, explain why not.

Description	Marks
Identifies any difficulties/issues in the investigation/indicates that there were no issues with the investigation	1–2
Suggests possible improvements to the investigation/explains why none are needed	1–2
Total	**/4**

Sample assessment task

Animal Production Systems – General Year 11

Task 11 — Unit 1 and Unit 2

Assessment type: Test

Conditions
Time for the task: 60 minutes

Task weighting
15% of the school mark for this pair of units

Year 11 General Animal Production Systems

TEST

Time allowed for this paper

Reading time before commencing work: 5 minutes

Working time for paper: 60 minutes

Section	Suggested working time	Number of questions	Marks
ONE Multiple choice	15 minutes	15	15
TWO Short answer	45 minutes	3	60
		Total	**75**

Section One: Multiple choice **(15 marks)**

1. Natural selection is a process where

   a. the animals most suited to their environment will survive.
   b. suitable animals are selected for breeding.
   c. the animals most suited to their environment will survive and reproduce.
   d. a greater variety of genes are passed on to the next generation.

2. Metazoal diseases can be caused by

   a. bacteria and viruses.
   b. genetics.
   c. internal parasites and bacteria.
   d. internal and external parasites.

3. Production animals are usually categorised by their

   a. appearance.
   b. purpose.
   c. breeding capacity.
   d. life span.

4. The microbes that break down cellulose are found in a ruminant's

   a. rumen.
   b. reticulum.
   c. omasum.
   d. abomasum.

5. Roughages are

   a. low in fibre and high in energy.
   b. low in fibre and low in energy.
   c. high in fibre and high in energy.
   d. high in fibre and low in energy.

6. A deficiency of calcium in the blood causes which nutritional disease?

   a. acidosis
   b. grain poisoning
   c. milk fever
   d. white-muscle disease

7. A code of practice for an animal enterprise contains

   a. practical strategies that producers can use to meet animal welfare standards.
   b. rules that producers must follow to manage the enterprise.
   c. laws that producers must abide by to meet animal welfare standards.
   d. guidelines for best practice that are legally binding.

8. A trial was conducted where ten lambs were fed two different diets for four weeks. Each group had the same starting weight.

	Individual weights (kg) recorded at week 4	Average weight (kg)
Diet 1	31, 32.5, 36, 31, 37, 31.5, 32, 32, 29, 30	32
Diet 2	26, 33, 28, 34.5, 35.5, 31, 31, 29.5, 27, 30	**A**

The average weight for the lambs on diet 2 (**A** in the table) is

a. 33 kg.
b. 31 g.
c. 33000 g.
d. 31 kg.

9. Unlike a natural system, an animal production system is open and unstable because

a. it is not able to self-regulate and maintain equilibrium.
b. energy leaves the system as a variety of marketable products.
c. there is continuous recycling of nutrients within the system.
d. it contains a large number and variety of organisms.

10. Which one of the following is **not** a land resource used in animal production?

a. machinery to sow pastures
b. dams
c. shelter belts
d. soil

11. Which one of the following represents costs for a typical animal production system?

a. supplementary feed, vaccines, transport
b. transport, meat sales, ear tags
c. labour, insurance claims, supplementary feed
d. fertiliser, drench, wool sales

12. For animals used for meat production, what is the main reason for monitoring growth rate?

a. to minimise feed wastage
b. to support their future breeding ability
c. to track progress towards market specifications
d. to compare differences between breeds

13. Feed requirements differ between intensive and extensive animal production systems because

    a. intensively produced animals are less efficient at weight gain.
    b. intensively produced animals rely completely on the producer for their nutritional needs.
    c. extensively produced animals have greater competition for space.
    d. extensively produced animals cannot access pasture.

14. The main aim of sustainable animal production systems is

    a. to reduce the impact on the environment.
    b. to ensure long-term viability of the business.
    c. to gradually return the land to its natural state.
    d. to only use renewable resources.

15. Which one of the following is **not** one of the 'five freedoms of animal welfare'?

    a. freedom from hunger and thirst
    b. freedom from slaughter
    c. freedom from pain, injury and disease
    d. freedom from fear and distress

Section Two: Short answer **(60 marks)**

Question 16 **(12 marks)**

Growth and development are key components to the production cycle of livestock.

a) What is meant by the terms 'growth' and 'development'? (4 marks)

Growth: _____

_____

Development: _____

_____

b) The following table shows the daily energy requirements of sheep at various stages of their production cycle. Using the information provided in the table, answer the following questions.

Class of sheep	Energy requirement (MJ/day)
Dry sheep – 40 kg	7.6
Dry sheep – 50 kg	8.5
Weaner < 20 kg	4.1
Weaner > 25 kg	6.0
Ewe – 50 kg, mid-pregnancy	11.5
Ewe – as above but with twins	13.2
Ewe – 50 kg, lactating	17.0
Ewe – as above but with twins	19.5

(i) Which of the stages has the lowest daily energy requirement (MJ)? (1 mark)

_____

(ii) Which has the highest daily energy requirement? Explain why the energy demand would be greater for these animals. (3 marks)

_____

_____

_____

(iii) Calculate the extra daily energy a 50 kg lactating ewe with twins needs, compared with a dry 50 kg sheep. Show your workings. (2 marks)

_____

_____

_____

c) List two stages of an animal's life cycle where the demand for protein increases significantly. (2 marks)

1. _____

2. _____

Question 17 **(27 marks)**

The following questions relate to a selected animal production system you have studied this year.

Selected animal (e.g. sheep, cattle) _____ (no marks)

a) Animal product _____ (1 mark)

b) Name one breed used in your selected animal production system, and describe why it is suitable for producing the animal product. (3 marks)

_____

_____

_____

_____

c) Identify two features of this breed that make it suitable for the environment in which it is grown and state why each feature makes it suitable to its environment. (6 marks)

_____

_____

_____

_____

d) For your selected animal, identify **three** signs of good health. (3 marks)

_____

_____

_____

_____

e) List **four** husbandry practices that occur in a calendar of operations for your selected animal enterprise. (4 marks)

1. _____

2. _____

3. _____

4. _____

f) For **two** of the husbandry activities in (e), describe why these practices are carried out. (4 marks)

_____

_____

_____

_____

_____

_____

g) For the **two** husbandry activities you described in (f), state the time of year that they would likely occur, and describe why the timing is important. (6 marks)

_____

_____

_____

_____

_____

Question 18 **(21 marks)**

a) Select a pest or disease that affects an animal production system. (1 mark)

_____

b) Describe how your selected pest or disease could have an economic impact on the enterprise. (3 marks)

_____

_____

_____

c) Describe **two** signs or symptoms that could indicate an animal is affected by this pest or disease. (4 marks)

_____

_____

_____

_____

d) Identify **three** pieces of information on a chemical label that are required to be checked before treating an animal, and explain why they are important. (6 marks)

_____

_____

_____

_____

_____

_____

_____

_____

_____

e) Give an example for each type of disease identified below. (4 marks)

microbial	
metazoal	
metabolic	
hereditary	

f) Using an example, describe what is meant by 'zoonoses', and what precautions should be taken when handling affected animals. (3 marks)

_____

_____

_____

End of test

Marking key for sample assessment task 11 – Unit 1 and Unit 2

Section One: Multiple choice **(15 marks)**

Question	Answer
1	C
2	D
3	B
4	A
5	D
6	C
7	A
8	D
9	B
10	A
11	A
12	C
13	B
14	B
15	B

Section Two: Short answer **(60 marks)**

Question 16 **(12 marks)**

a) What is meant by the terms growth and development?

Description	Marks
Growth – process of changing size, becoming bigger and heavier	1–2
Development – process of changing shape/conformation as the animal matures; e.g. sexual development, the proportion of various body parts change	1–2
Total	**/4**

b) The following table shows the daily energy requirements of sheep at various stages of their production cycle. Using the information provided in the table, answer the following questions.

(i) Which of the stages has the lowest daily energy requirement (MJ)?

Description	Marks
Weaner < 20 kg – needs 4.1 MJ/day	1
Total	**/1**

(ii) Which has the highest daily energy requirement? Explain why the energy demand would be greater for these animals.

Description	Marks
Twin bearing lactating ewes (19.5 MJ/day)	1
Lactation (the process of making milk) uses a lot of energy, and the ewe needs to eat to maintain herself (e.g. body heat, muscular and organ function), as well as produce enough milk for two lambs (each with their own energy requirement).	1–2
Total	**/3**

(iii) Calculate the daily extra energy a 50 kg lactating ewe with twins needs compared with a dry 50 kg sheep. Show your workings.

Description	Marks
19.5–8.5 = 11 MJ/day	1
Inclusion of units	1
Total	**/2**

c) List two stages of an animal's life cycle where the demand for protein increases significantly.

Description	Marks
Young, actively growing animals	1
Lactating animals	1
Total	**/2**

Question 17 **(27 marks)**

The following questions relate to a selected animal production system you have studied this year.
Selected animal (e.g. sheep, cattle) _____ (no marks)

a) Animal product

Description	Marks
Animal product appropriate to selected animal e.g. sheep – wool	1
Total	**/1**

b) Name one breed used in your selected animal production system, and describe why it is suitable for producing the animal product.

Description	Marks
Name of breed e.g. merino	1
Provides (at least) two valid reasons breed is suitable; e.g. merino produces the best quality wool (fine, good length, soft), and a heavy fleece (good quantity). Well suited to Australia's climate.	1–2
Total	**/3**

c) Identify two features of this breed that make it suitable for the environment in which it is grown and state why each feature makes it suitable to its environment.

Description	Marks
Identification of each feature (one mark each); e.g. merino sheep – large frame; long legs; it is adaptable to a range of climates; natural wool grease	1–2
Description of each feature (two marks each); e.g. merino sheep – large frame and long legs help it to forage; natural wool grease helps protect animal from adverse weather	1–4
Total	**/6**

d) For your selected animal, identify three signs of good health.

Description	Marks
One mark for identification of each sign; e.g. merino sheep – alertness; free movement; eating	1–3
Total	**/3**

e) List four husbandry practices that occur in a calendar of operations for your selected animal enterprise.

Description	Marks
One mark for each practice listed; e.g. merino sheep – joining; vaccinating; weaning; shearing	1–4
Total	**/4**

f) For two of the husbandry activities in (e), describe why these practices are carried out.

Description	Marks
For each activity: • Simple definition of chosen activity (one mark each) • Simple definition together with statement of the purpose of activity (one mark each) e.g. merino sheep – joining is the process of putting rams in with ewes (1) to initiate the reproductive process to produce lambs for further production (1). Shearing is harvesting wool from a producer's flock (1) to enable the product to be transported and sold for income. It generally occurs once a year (1).	1–2 1–2
Total	**/4**

g) For the two husbandry activities you described in (f), state the time of year that they would likely occur, and describe why the timing is important.

Description	Marks
Timing of activity (one for mark for each activity)	1–2
Description of importance of timing (two for marks for each activity); e.g. merino sheep – joining is timed with seasonal availability of feed. For a sheep enterprise, lambs should be born onto green pasture, typically in winter-spring. Therefore, joining is timed five months before lambs are expected. Joining preparation needs to occur earlier.	1–4
Total	**/6**

Question 18 **(21 marks)**

a) Select a pest or disease that affects an animal production system.

Description	Marks
Selection of an appropriate pest or disease e.g. blowflies	1
Total	**/1**

b) Describe how your selected pest or disease could have an economic impact on the enterprise.

Description	Marks
Description of how the pest/disease economically impacts the enterprise; e.g. blowflies can cause flystrike in sheep. Flystrike causes economic loss through lost production (e.g. wool quality) and the time and cost of treating affected sheep e.g. with chemicals. If untreated, it is a major loss, as the affected sheep will die.	1–3
Total	**/3**

c) Describe **two** signs or symptoms that could indicate an animal is affected by this pest or disease.

Description	Marks
Description of symptoms (two marks for each symptom) e.g. blowflies – blackened area of the fleece – if this is evident the strike is well under way; agitation – the sheep may try to shake/nuzzle the affected area, or stamp its feet, as it is irritated	1–4
Total	**/4**

d) Identify **three** pieces of information on a chemical label that are required to be checked before treating an animal, and explain why they are important.

Description	Marks
Identifying a piece of information (one mark each)	1–3
Identifying their importance (one mark each) e.g. • application rate – so the product is effective at treating the pest/disease, and to ensure no overdosing • application method – how the product is administered to the animal for best results • withholding period – the minimum time interval between treatment and human consumption	1–3
Total	**/6**

e) Give an example for each type of disease identified below.

Description		Marks
Appropriate example provided as in the table below (one mark each)		1–4
Total		**/4**
Answer could include, but is not limited to:		
Type of disease	**Examples**	
microbial	tetanus	
metazoal	flystrike	
metabolic	acidosis	
hereditary	spider lamb syndrome	

f) Using an example, describe what is meant by 'zoonoses', and what precautions should be taken when handling affected animals.

Description	Marks
Appropriate example provided	1
Description of precautions e.g. Zoonotic diseases can pass between species (e.g. from animals to humans) Q fever is an example of a zoonotic disease Minimising contact and wearing appropriate personal protective equipment (PPE) is essential	1–2
Total	**/3**

End of test