

2010 HSC Agriculture Paper 1 Marking Guidelines

Section I

Question 1 (a)

Criteria	Marks
• Sketches in general terms, or quantifies, a market specification for the named product	2
• Identifies a market specification for the named product	1

Question 1 (b)

Criteria	Marks
• Makes the relationship between government intervention in agricultural production and the effect of this intervention evident by referring to a specific example	3
• Outlines a way government intervenes in agricultural production OR • Identifies a way government intervenes and identifies an effect of government intervention in agricultural production	2
• Identifies a way government intervenes in agricultural production OR • Identifies an effect of government intervention on agricultural production	1

Question 1 (c)

Criteria	Marks
<ul style="list-style-type: none"> Calculates the correct gross margin for Crop B, showing all working 	4
<ul style="list-style-type: none"> Calculates the correct gross margin for Crop A, showing all working OR Calculates a gross margin for Crop B, showing all working, but using an incorrect cost or income amount 	3
<ul style="list-style-type: none"> Calculates the correct gross margin for Crop B (no working) OR Correctly identifies the chemical, fuel and seed costs as variable costs OR Identifies Crop B as having the highest yield Attempts a calculation of a gross margin OR states the formula for a gross margin 	2
<ul style="list-style-type: none"> Calculates the correct gross margin for Crop A (no working) OR Attempts calculation of a gross margin by showing some working, using data from the table (eg correctly identifies fixed/variable costs or income amount) OR States the formula for calculating a gross margin OR Identifies Crop B as having the higher yield 	1

Question 2 (a)

Criteria	Marks
<ul style="list-style-type: none"> Shows the relationship between the label and the method(s) a farmer uses to ensure all safety directions are met 	2
<ul style="list-style-type: none"> Identifies the safety directions on the label OR Outlines a way a farmer ensures a safety direction is met 	1

Question 2 (b)

Criteria	Marks
<ul style="list-style-type: none"> Relates the role of microorganisms in the conversion of urea to at least one other form of soil nitrogen that is readily available to plants 	3
<ul style="list-style-type: none"> Outlines a change(s) in the form of nitrogen in the soil (other than urea) OR Outlines the role of microorganisms in the conversion of soil nitrogen 	2
<ul style="list-style-type: none"> Identifies a form of nitrogen (ion) in the soil other than urea 	1

Question 2 (c)

Criteria	Marks
• Provides a method that uses plants and clearly shows how this method increases the level of soil nitrogen	3
• Outlines a method that uses plants to increase soil nitrogen level	2
• Identifies a method that uses plants to increase soil nitrogen level	1

Question 3 (a)

Criteria	Marks
• Constructs an accurately plotted column graph showing correct orientation of axes, appropriate scale and correctly labelled axes with units	3
• Constructs a graph showing most graphing features	2
• Attempts to plot a graph with limited graphing features	1

Question 3 (b)

Criteria	Marks
• Sketches in general terms a procedure to ensure reliability of results in this experiment	2
• Identifies a procedure to ensure reliability of results in experiments	1

Question 3 (c)

Criteria	Marks
• Supports an argument for choosing to grow variety C over the other varieties	3
• Outlines a reason for choosing to grow variety C	2
• Identifies a reason for choosing to grow variety C OR • Identifies that variety C is the lowest-yielding variety of corn	1

Section II

Question 4 (a) (i)

Criteria	Marks
• Sketches in general terms a type of plant interference that may be occurring in this pasture	2
• Identifies a type of plant interference that may be occurring in the pasture	1

Question 4 (a) (ii)

Criteria	Marks
• Relates a management technique to its effect on the level of plant interference in this pasture	3
• Outlines a management technique that may affect the level of plant interference in this pasture	2
• Identifies a management technique that may affect the level of plant interference in this pasture OR • Identifies an effect of management on plant interference in this pasture	1

Question 4 (b)

Criteria	Marks
• Relates how differing planting densities affect the levels of plant productivity for an investigation that could be carried out OR • Relates the level of plant density to the levels of vegetative or reproductive yield and links this to a level/measure of plant productivity for an investigation that could be carried out	4
• Relates the level of planting density to the levels of vegetative or reproductive yield for an investigation that could be carried out OR • Relates the level of planting density to the effect(s) on plant productivity for an investigation that could be carried out	3
• Outlines the effect of planting density on plant productivity OR • Outlines an investigation that could be carried out on planting density	2
• Identifies an effect of planting density on plant productivity OR • Identifies an investigation that could be carried out on plant density	1

Question 4 (c)

Criteria	Marks
<ul style="list-style-type: none"> Provides points for and/or against the development of new genetic technique/s in plant-breeding systems, including an outline of the technique/s and the implications for Australian agricultural systems 	5–6
<ul style="list-style-type: none"> Outlines a plant-breeding technique/s or associated issues providing points for and/or against the technique/s or issues OR <ul style="list-style-type: none"> Outlines plant-breeding techniques or associated issues aimed at improving plant quality and production 	3–4
<ul style="list-style-type: none"> Outlines a plant-breeding technique aimed at improving plant quality or production OR <ul style="list-style-type: none"> Outlines a plant-breeding system OR <ul style="list-style-type: none"> Outlines an implication of a new genetic technique used in plant production 	1–2

Question 5 (a) (i)

Criteria	Marks
<ul style="list-style-type: none"> Sketches in general terms a reason for using this type of breeding system 	2
<ul style="list-style-type: none"> Identifies a reason for using the system OR <ul style="list-style-type: none"> Correctly names the breeding system 	1

Question 5 (a) (ii)

Criteria	Marks
<ul style="list-style-type: none"> Provides an alternative breeding system and a detailed account of the benefit(s) of this system and why a farmer may use it 	4
<ul style="list-style-type: none"> Outlines an alternative breeding system and provides a benefit of this system 	3
<ul style="list-style-type: none"> Outlines alternative breeding system OR <ul style="list-style-type: none"> Outlines reason for using an alternative breeding system 	2
<ul style="list-style-type: none"> Identifies an alternative breeding system OR <ul style="list-style-type: none"> Identifies a reason for using an alternative breeding system 	1

Question 5 (b)

Criteria	Marks
<ul style="list-style-type: none"> Provides detailed reasoning for the variation in a component of body tissue between Animal 1 and Animal 2 	3
<ul style="list-style-type: none"> Outlines a reason for the variation in a component of body tissue 	2
<ul style="list-style-type: none"> Identifies a reason for the variation in a component of body tissue OR <ul style="list-style-type: none"> Identifies a variation in a component of body tissue between Animal 1 and Animal 2 	1

Question 5 (c)

Criteria	Marks
<ul style="list-style-type: none"> Relates a management practice(s) that meets the nutritional requirements of farm animals, to the effects on both growth and development 	5–6
<ul style="list-style-type: none"> Relates a management practice(s) that meets the nutritional requirements of farm animals, to the effect on growth or development OR <ul style="list-style-type: none"> Relates a management practice(s) that meets a nutritional requirement of farm animals, to the effects on both growth and development OR <ul style="list-style-type: none"> Outlines a nutritional requirement and/or a nutritional management practice, and attempts to link these to growth AND/OR development 	3–4
<ul style="list-style-type: none"> Outlines the term ‘growth and development’ OR <ul style="list-style-type: none"> Outlines a nutritional requirement of farm animals OR <ul style="list-style-type: none"> Outlines a nutritional management practice farmers may use with farm animals 	1–2

Section III

Question 6 (a)

Criteria	Marks
<ul style="list-style-type: none"> Provides a detailed account of the types of climatic information and relates it to its influence on agricultural production 	5
<ul style="list-style-type: none"> Provides an account for a type of climatic information and relates its influence on agricultural production OR <ul style="list-style-type: none"> Outlines types of climatic information available 	3–4
<ul style="list-style-type: none"> Outlines a type of climatic information OR <ul style="list-style-type: none"> Identifies a type of climatic information OR <ul style="list-style-type: none"> Outlines an effect of climate on agricultural production 	1–2

Question 6 (b)

Criteria	Marks
<ul style="list-style-type: none"> Relates the components of a named IPM program to the control of the pest/disease (eg in terms of host, pathogen and environment for disease) Places a value judgement on the IPM program 	9–10
<ul style="list-style-type: none"> Relates the components of a named IPM program to the control of the pest/disease (eg in terms of host, pathogen and environment for disease) 	7–8
<ul style="list-style-type: none"> Outlines a method of control to manage a plant/animal pest or disease Relates this method to the control of the pest/disease Provides a value judgement of the method OR <ul style="list-style-type: none"> Describes methods of control to manage a named plant/animal pest or disease Identifies other method(s) of control to manage a plant/animal pest or disease 	5–6
<ul style="list-style-type: none"> Describes a method of control to manage a named plant/animal pest or disease Relates this method to the control of the pest/disease OR <ul style="list-style-type: none"> Outlines methods of control to manage a plant/animal pest or disease 	3–4
<ul style="list-style-type: none"> Outlines a method of control to manage a plant/animal pest or disease OR <ul style="list-style-type: none"> Identifies a method(s) of control to manage a plant/animal pest or disease 	1–2

Question 7 (a)

Criteria	Marks
<ul style="list-style-type: none"> • Outlines an example of value-adding for an agricultural product and relates this to potential benefits 	5
<ul style="list-style-type: none"> • Provides a description of the process of value-adding for an agricultural product OR <ul style="list-style-type: none"> • Outlines the term ‘value-adding’ • Identifies an example of value-adding 	3–4
<ul style="list-style-type: none"> • Outlines the term ‘value-adding’ OR <ul style="list-style-type: none"> • Identifies an example of value-adding 	1–2

Question 7 (b)

Criteria	Marks
<ul style="list-style-type: none"> • Provides a detailed account of the features of each selling method, indicating the similarities and/or differences of these features for each method 	9–10
<ul style="list-style-type: none"> • Provides an account of features of each selling method, indicating the similarities and/or differences for most of these features 	7–8
<ul style="list-style-type: none"> • Describes features of both selling methods, indicating similarities and/or differences for some of these 	5–6
<ul style="list-style-type: none"> • Outlines features of the selling method(s) 	3–4
<ul style="list-style-type: none"> • Identifies features of the selling method(s) 	1–2

Question 8 (a)

Criteria	Marks
<ul style="list-style-type: none"> • Relates how measures of animal performance are linked to the management of animal production systems 	5
<ul style="list-style-type: none"> • Outlines a measure of animal performance and relates this to the management of animal production systems OR <ul style="list-style-type: none"> • Outlines measures of animal performance 	3–4
<ul style="list-style-type: none"> • Outlines a measure of animal performance OR <ul style="list-style-type: none"> • Identifies a measure of animal performance 	1–2

Question 8 (b)

Criteria	Marks
<ul style="list-style-type: none"> Provides clear relationships between the changing levels of nutrition and implications for the fertility of farm animals 	9–10
<ul style="list-style-type: none"> Explains the effects of the level of nutrition, relating this to an implication for the fertility of farm animals 	7–8
<ul style="list-style-type: none"> Describes the effect(s) of the level of nutrition and relates this to the fertility of farm animals 	5–6
<ul style="list-style-type: none"> Outlines effect(s) of the level of nutrition on the fertility of farm animals 	3–4
<ul style="list-style-type: none"> Identifies an effect(s) of the level of nutrition on the fertility of farm animals 	1–2

Question 9 (a)

Criteria	Marks
<ul style="list-style-type: none"> Provides the similarities and/or differences in the roles of both native and introduced pasture species in pasture-management systems 	5
<ul style="list-style-type: none"> Provides the similarities and/or differences of a role of both native and introduced pasture species in pasture-management systems OR <ul style="list-style-type: none"> Outlines the roles of native and introduced pasture species in pasture-management systems 	3–4
<ul style="list-style-type: none"> Outlines a role of native or introduced pasture species in pasture-management systems OR <ul style="list-style-type: none"> Identifies a role(s) of native and/or introduced pasture species in pasture-management systems 	1–2

Question 9 (b)

Criteria	Marks
<ul style="list-style-type: none"> Identifies issues and provides detailed account of points for and/or against the methods of minimum tillage and crop rotation in their impact(s) on the physical characteristics of soil 	9–10
<ul style="list-style-type: none"> Provides points for and against the methods of minimum tillage and crop rotation in their impact(s) on the physical characteristics of soil 	7–8
<ul style="list-style-type: none"> Provides characteristics and features of the methods of minimum tillage and crop rotation, and outlines possible effect(s) on the physical characteristics of soil OR <ul style="list-style-type: none"> Identifies issues and provides detailed account of points for and/or against methods of minimum tillage or crop rotation in their impact(s) on the physical characteristics of soil 	5–6
<ul style="list-style-type: none"> Outlines the methods of minimum tillage and crop rotation in relation to soil management OR <ul style="list-style-type: none"> Outlines impacts on the physical characteristics of soil that may occur through the use of minimum tillage and/or crop rotation 	3–4
<ul style="list-style-type: none"> Outlines the practice of minimum tillage or crop rotation OR <ul style="list-style-type: none"> Outlines an impact of minimum tillage or crop rotation on the physical characteristics of soil OR <ul style="list-style-type: none"> Identifies an impact of minimum tillage or crop rotation on the physical characteristics of soil OR <ul style="list-style-type: none"> Identifies aspects of the physical characteristics of soil that may be affected by tillage 	1–2

Agriculture Paper 1

2010 HSC Examination Mapping Grid

Question	Marks	Content	Syllabus outcomes
Section I			
1 (a)	2	Farm/Product Study	H3.1
1 (b)	3	Farm/Product Study	H3.1, H3.4
1 (c)	4	Farm/Product Study	H3.1
2 (a)	2	Sustainable Agriculture Production	H2.1
2 (b)	3	Sustainable Agriculture Production	H1.1, H2.1
2 (c)	3	Sustainable Agriculture Production	H1.1, H2.1
3 (a)	3	Experimental Analysis and Research	H1.1, H2.1
3 (b)	2	Experimental Analysis and Research	H1.1, H2.1
3 (c)	3	Experimental Analysis and Research	H1.1, H2.1
Section II			
4 (a) (i)	2	Plant Production System	H2.1
4 (a) (ii)	3	Plant Production System	H2.1
4 (b)	4	Plant Production System	H2.1
4 (c)	6	Plant Production System	H2.1
5 (a) (i)	2	Animal Production System	H2.2
5 (a) (ii)	4	Animal Production System	H2.2
5 (b)	3	Animal Production System	H2.2
5 (c)	6	Animal Production System	H2.2
Section III			
6 (a)	5	Climate Information	H2.1
6 (b)	10	Integrated Pest Management	H2.1, H2.2
7 (a)	5	Farm Product Study	H3.1
7 (b)	10	Farm Product Study	H3.3
8 (a)	5	Animal Production System	H2.2
8 (b)	10	Animal Production System	H2.2
9 (a)	5	Plant Production	H2.1
9 (b)	10	Sustainability	H1.1