

B O A R D O F S T U D I E S
NEW SOUTH WALES

2009 HSC Agriculture Paper 1 Marking Guidelines

Section I

Question 1 (a)

Outcomes assessed: H3.1

MARKING GUIDELINES

Criteria	Marks
• Sketches in general terms a process that occurs at X	2
• Names a process that occurs at X	1

Question 1 (b)

Outcomes assessed: H3.2

MARKING GUIDELINES

Criteria	Marks
• Provides characteristics and features of a strategy used at Y to increase consumer demand for the product	3
• Sketches in general terms a strategy used at Y to increase consumer demand for this product	2
• Names a strategy that can be used at Y to increase consumer demand	1

Question 1 (c)*Outcomes assessed: H3.1***MARKING GUIDELINES**

Criteria	Marks
• Shows the relationship between the supply of the raw commodity and the price paid by the consumer for the farm product	3
• Sketches in general terms the relationship between supply and the price paid by consumers	2
• States there is a link between supply of the raw material and the price paid by the consumer	1

Question 2 (a) (i)*Outcomes assessed: H2.1***MARKING GUIDELINES**

Criteria	Marks
• States the correct application rate of nitrogen fertiliser to give the maximum dry matter yield for grass	1

Question 2 (a) (ii)*Outcomes assessed: H2.1***MARKING GUIDELINES**

Criteria	Marks
• Shows the relationship between legumes and nitrogen fixation and hence their reduced response to applied nitrogen fertiliser compared with that of grasses	3
• Sketches in general terms a reason for the difference between response of grasses and legumes to the application of nitrogen fertiliser	2
• States a difference between response of grasses and legumes to the application of nitrogen fertiliser	1

Question 2 (b)*Outcomes assessed: H1.1***MARKING GUIDELINES**

Criteria	Marks
• Provides a detailed response of how the overuse of fertiliser affects the environment and the consequence of this	3–4
• Sketches in general terms the effect of the overuse of fertiliser on the environment	2
• States a way the environment is damaged by the overuse of fertiliser	1

Question 3 (a)*Outcomes assessed: H2.1***MARKING GUIDELINES**

Criteria	Marks
• States the correct application rate for the control in this experiment	1

Question 3 (b)*Outcomes assessed: H2.1***MARKING GUIDELINES**

Criteria	Marks
• Sketches in general terms the role of the control in this experiment	2
• States the role of a control in experimental design	1

Question 3 (c)*Outcomes assessed: H2.1***MARKING GUIDELINES**

Criteria	Marks
• Correctly calculates the cost of one litre of chlorophthalanil, showing working	2
• States correct answer without showing working out OR • Shows working out and incorrect answer	1

Question 3 (d)*Outcomes assessed: H2.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">• Makes the relationship between at least TWO factors and the decision to use a fungicide	4
<ul style="list-style-type: none">• Makes the relationship between a factor AND the decision AND states another factor <p>OR</p> <ul style="list-style-type: none">• Outlines at least TWO factors that a farmer should consider before making a decision on the use of a fungicide	3
<ul style="list-style-type: none">• States at least TWO factors a farmer should consider before making a decision to use a fungicide on chickpeas	2
<ul style="list-style-type: none">• States a factor a farmer should consider before deciding to use a fungicide on chickpeas	1

Section II

Question 4 (a) (i)

Outcomes assessed: H2.1

MARKING GUIDELINES

Criteria	Marks
• Suggests ALL of the correct months for sowing wheat	2
• Suggests at least TWO of the correct months for sowing wheat	1

Question 4 (a) (ii)

Outcomes assessed: H2.1

MARKING GUIDELINES

Criteria	Marks
• Shows the relationship between the time of year for growth and temperature at germination on crop production	3
• Shows relationship between the time of year for growth and temperature at germination	2
• Identifies the range of temperature important for millet germination above 80% OR • Outlines how germination leads to the growth of millet OR • Identifies an environmental factor, other than temperature, that may affect germination or plant growth	1

Question 4 (b)

Outcomes assessed: H2.1

MARKING GUIDELINES

Criteria	Marks
• Sketches in general terms the genetic basis of a method of plant breeding that improves plant quality/ productivity aspects of plants	3–4
• Sketches in general terms the method of plant breeding OR • Sketches in general terms the quality/ productivity trait	2
• Identifies a method of plant breeding OR • Identifies a quality or productivity trait that can be bred for	1

Question 4 (c)*Outcomes assessed: H2.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Identifies issues and provides points for and/or against the use of introduced pasture species in Australian pasture production systems	5–6
<ul style="list-style-type: none">Identifies an issue and provides points for and/or against the use of introduced pasture species in Australian pasture production systems OR <ul style="list-style-type: none">Outlines reasons for and/or against the use of introduced pasture species in Australian pasture production systems	3–4
<ul style="list-style-type: none">Outlines a reason for and/or against the use of introduced pasture species in Australian pasture production systems OR <ul style="list-style-type: none">Identifies one reason for and/or against the use of introduced pasture species	1–2

Question 5 (a) (i)*Outcomes assessed: H2.2***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features from the graph that indicate the effect of ewe live weight on lambing percentage	2
<ul style="list-style-type: none">Identifies a change occurs between points on the graph OR <ul style="list-style-type: none">Identifies a lambing percentage for a certain ewe live weight	1

Question 5 (a) (ii)*Outcomes assessed: H2.2***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Shows the relationship between the information from the graph and how a farmer uses it to maximise lambing percentage	3
<ul style="list-style-type: none">Sketches in general terms a way farmers could manage ewe live weight at lambing	2
<ul style="list-style-type: none">Identifies a way in which a farmer manages ewe live weight at lambing OR <ul style="list-style-type: none">Identifies a way to maximise live lambs	1

Question 5 (b)
Outcomes assessed: H2.2
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Outlines differences shown in the diagram between Pen X and Pen Y and provides reasoning as to the effect of these differences in average growth rates of the two pens 	4
<ul style="list-style-type: none"> Outlines a difference shown in the diagram between Pen X and Pen Y and provides reasoning as to the effect of this on differences in average growth rates of the two pens AND <ul style="list-style-type: none"> Identifies another difference shown in the diagram and/or reason between the two pens that may have affected growth rate 	3
<ul style="list-style-type: none"> Outlines a difference and/or reason between the two pens that may have effected growth rate OR <ul style="list-style-type: none"> Identifies TWO differences between Pens X and Y 	2
<ul style="list-style-type: none"> Identifies that Pen Y has a higher average growth rate than Pen X OR <ul style="list-style-type: none"> Identifies a difference between Pen X and Pen Y 	1

Question 5 (c)
Outcomes assessed: H2.2
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Shows the relationship between the role of hormones in the regulation of animal reproduction and behaviour 	5–6
<ul style="list-style-type: none"> Outlines how hormones regulate animal reproduction and behaviour OR <ul style="list-style-type: none"> Shows the relationship between the role of hormone/s in the regulation of animal reproduction or animal behaviour 	3–4
<ul style="list-style-type: none"> Outlines the role of hormone/s in the regulation of animal reproduction and/or behaviour OR <ul style="list-style-type: none"> Identifies the role of hormones in the regulation of animal reproduction and behaviour 	1–2

Section III

Question 6 (a)

Outcomes assessed: H3.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features of how the changes in farm ownership has affected Australian agriculture	5
<ul style="list-style-type: none">Provides characteristics and features of farm ownership in Australian agriculture	3–4
<ul style="list-style-type: none">Identifies a type of farm ownership OR <ul style="list-style-type: none">Identifies a change in farm ownership	1–2

Question 6 (b)

Outcomes assessed: H3.3

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none">Identifies issues and provides a number of points for and/or against strategies farmers can use to manage risk associated with the changing costs of farm inputs and irregular income	9–10
<ul style="list-style-type: none">Provides some points for and/or against strategies farmers can use to manage risk associated with the changing costs of farm inputs and irregular levels of income	7–8
<ul style="list-style-type: none">Provides characteristics and features of the risk associated with changing costs of inputs and irregular levels of income	5–6
<ul style="list-style-type: none">Outlines how farmers can manage risks associated with the changing costs of inputs and irregular levels of income	3–4
<ul style="list-style-type: none">Outlines how income can fluctuate OR <ul style="list-style-type: none">Identifies the risks associated with an enterprise OR <ul style="list-style-type: none">Identifies costs associated with inputs	1–2

Question 7 (a)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Provides the key links between land use practices and soil salinity levels. 	5
<ul style="list-style-type: none"> Provides some examples of how land use practices may affect soil salinity levels 	3–4
<ul style="list-style-type: none"> Outlines that land use practices have led to salinity <p>OR</p> <ul style="list-style-type: none"> Identifies a land use practice that has led to salinity 	1–2

Question 7 (b)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Provides a detailed account of factors that may influence long-term sustainability over short-term profitability of farms Links the implications of these factors on a farmer’s decision to optimise long-term sustainability over short-term profitability 	9–10
<ul style="list-style-type: none"> Explains factors that may influence long-term sustainability over short-term profitability of farms and the implications of these factors on a farmer’s decision-making 	7–8
<ul style="list-style-type: none"> Describes factors that may influence a farmer’s decision to optimise long-term sustainability over short-term profitability, relating the implication of one of these factors 	5–6
<ul style="list-style-type: none"> Outlines factors that may influence a farmer’s decision to optimise long-term sustainability over short-term profitability 	3–4
<ul style="list-style-type: none"> Identifies a factor/s that may influence a farmer’s decision to optimise long-term sustainability over short-term profitability <p>OR</p> <ul style="list-style-type: none"> Identifies that optimising long-term sustainability and short-term profitability are normally in conflict 	1–2

Question 8 (a)
Outcomes assessed: H2.1
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Relates how the process of photosynthesis contributes energy to allow for growth of plants 	5
<ul style="list-style-type: none"> Provides some of the key steps in the process of photosynthesis and respiration (growth) 	3–4
<ul style="list-style-type: none"> Identifies at least ONE stage of photosynthesis OR <ul style="list-style-type: none"> Outlines a stage of photosynthesis 	1–2

Question 8 (b)
Outcomes assessed: H2.1
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Describes techniques farmers use to manage plant interference Relates these techniques to improved plant productivity Places a value judgement on each of these techniques 	9–10
<ul style="list-style-type: none"> Describes techniques farmers use to manage plant interference Relates the techniques to improved plant productivity OR <ul style="list-style-type: none"> Describes techniques farmers use to manage plant interference Makes a value judgement/s on each technique 	7–8
<ul style="list-style-type: none"> Describes a technique farmers use to manage plant interference Relates this technique to improved plant productivity Places a value judgement of this technique OR <ul style="list-style-type: none"> Describes techniques farmers use to manage plant interference AND <ul style="list-style-type: none"> Identifies other techniques 	5–6
<ul style="list-style-type: none"> Describes a technique farmers use to manage plant interference Relates this technique to plant productivity OR makes a value judgement on this technique OR <ul style="list-style-type: none"> Outlines techniques farmers use to manage plant interference 	3–4
<ul style="list-style-type: none"> Outlines a technique farmers use to manage plant interference OR <ul style="list-style-type: none"> Identifies a technique farmers use to manage plant interference 	1–2

Question 9 (a)

Outcomes assessed: H2.2

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Describes the nutritional requirements for animals and relates these requirements to the particular needs of a named animal 	5
<ul style="list-style-type: none"> Outlines some of the nutritional requirements for a named animal 	3–4
<ul style="list-style-type: none"> Outlines a nutritional requirement of animals OR <ul style="list-style-type: none"> Identifies nutritional requirements of animals 	1–2

Question 9 (b)

Outcomes assessed: H2.2

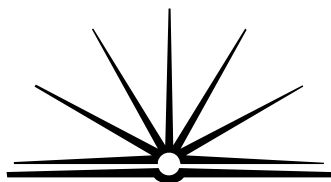
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Provides a detailed account of the impacts of publicity of animal welfare issues on animal production systems Makes a judgement on the value or outcome of these impacts 	9–10
<ul style="list-style-type: none"> Provides a detailed account of the impact of publicity of an animal welfare issue, making a judgement on the value/outcome of this impact 	7–8
<ul style="list-style-type: none"> Accounts for the impact that publicity about an animal welfare issue may have on an animal production system/s 	5–6
<ul style="list-style-type: none"> Outlines the role of publicity of animal welfare issues OR <ul style="list-style-type: none"> Outlines an effect of animal welfare on production 	3–4
<ul style="list-style-type: none"> Identifies an example of an animal welfare issue OR <ul style="list-style-type: none"> Identifies an effect on production 	1–2

Agriculture Paper 1

2009 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	H3.2
1 (c)	3	Farm product study	H3.1
2 (a) (i)	1	Sustainable agricultural production	H2.1
2 (a) (ii)	3	Sustainable agricultural production	H2.1
2 (b)	4	Sustainable agricultural production	H1.1
3 (a)	1	Experimental analysis	H2.1
3 (b)	2	Experimental analysis	H2.1
3 (c)	2	Experimental analysis	H2.1
3 (d)	4	Experimental analysis	H2.1
Section II			
4 (a) (i)	2	Plant production systems	H2.1
4 (a) (ii)	3	Plant production systems	H2.1
4 (b)	4	Plant production systems	H2.1
4 (c)	6	Plant production systems	H2.1
5 (a) (i)	2	Animal production systems	H2.2
5 (a) (ii)	3	Animal production systems	H2.2
5 (b)	4	Animal production systems	H2.2
5 (c)	6	Animal production systems	H2.2
6 (a)	5	Farm product study	H3.1
6 (b)	10	Farm product study	H3.3
7 (a)	5	Sustainable agricultural production	H1.1
7 (b)	10	Sustainable agricultural production	H1.1
8 (a)	5	Plant production systems	H2.1
8 (b)	10	Plant production systems	H2.1
9 (a)	5	Animal production systems	H2.2
9 (b)	10	Animal production systems	H2.2



B O A R D O F S T U D I E S
NEW SOUTH WALES

2009 HSC Agriculture Paper 2 Marking Guidelines

Question 1 (a)

Outcomes assessed: H4.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features of the research methodology used in a study to determine the impact of a large rural business organisation on agricultural industries	3
<ul style="list-style-type: none">Outlines the research methodology used in a study to determine the impact of a large rural business organisation on agricultural industries	2
<ul style="list-style-type: none">Identifies a study related to the impact of a large rural business organisation on agricultural industries <p>OR</p> <ul style="list-style-type: none">Identifies at least one aspect of the research method used in a study to determine the impact of a large rural business organisation on agricultural industries	1

Question 1 (b)

Outcomes assessed: H3.4

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Provides similarities or differences between TWO farm advisory services farmers may use to manage their farms 	3–4
<ul style="list-style-type: none"> Identifies TWO types of farm advisory service farmers may use to manage their farm OR <ul style="list-style-type: none"> Outlines the features of a farm advisory service farmers may use to manage their farms 	2
<ul style="list-style-type: none"> Identifies ONE type of farm advisory service farmers may use to manage their farms 	1

Question 1 (c)

Outcomes assessed: H5.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Describes the features of international markets that impact on farm business Places a judgement on the value of the impacts on farm business against criteria 	7–8
<ul style="list-style-type: none"> Describes a feature of an international market that impacts on farm and places a value of this impact against criteria Describes an additional international market and/or feature and its impact on farm business 	5–6
<ul style="list-style-type: none"> Describes a feature of an international market that impacts on farm business and places a value of the impact against criteria OR <ul style="list-style-type: none"> Describes a feature of an international market and its impact on farm business 	3–4
<ul style="list-style-type: none"> Outlines a feature of an international market that impacts on farm business OR <ul style="list-style-type: none"> Identifies a feature of an international market that impacts on farm business 	1–2

Question 2 (a)
Outcomes assessed: H4.1
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> States reasons for the various forms of data collected in a study of a current technique/technology which is advancing productivity in animal production systems 	3
<ul style="list-style-type: none"> Outlines the various forms of data collected in a study of a current technique/technology which is advancing productivity in animal production systems 	2
<ul style="list-style-type: none"> Identifies a study related to a current technique/technology which is advancing productivity in animal production systems OR <ul style="list-style-type: none"> Identifies at least ONE type of data collected for a current technique/technology which is advancing productivity in animal production systems 	1

Question 2 (b)
Outcomes assessed: H3.4
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Provides a detailed explanation of the vaccination process Relates this to the function of the immune system in the prevention of animal disease 	3–4
<ul style="list-style-type: none"> Outlines the vaccination process used to prevent animal disease OR <ul style="list-style-type: none"> Outlines the immune systems of animals 	2
<ul style="list-style-type: none"> Identifies an animal disease that can be controlled by vaccination OR <ul style="list-style-type: none"> Identifies an animal vaccine OR <ul style="list-style-type: none"> Defines the term vaccine 	1

Question 2 (c)*Outcomes assessed: H5.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">• Provides a detailed account of the components of an innovative breeding system or technique and explains how this system or technique can be used to manipulate animal reproductive efficiency• Places a judgement on the value of this technique against criteria or existing systems/techniques	7–8
<ul style="list-style-type: none">• Explains an innovative breeding system or technique that has been introduced to manipulate animal reproductive efficiency• Describes an additional feature of this technique	5–6
<ul style="list-style-type: none">• Describes the features of an innovative breeding system or technique and how this can manipulate animal reproductive efficiency	3–4
<ul style="list-style-type: none">• Outlines an innovative breeding system or technique that has been introduced to manipulate animal reproductive efficiency <p>OR</p> <ul style="list-style-type: none">• Identifies an innovative breeding system or technique that has been introduced to manipulate animal reproductive efficiency	1–2

Question 3 (a)*Outcomes assessed: H4.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features of the way results were presented in a study related to a technological innovation aimed at improving productivity in a horticultural industry	3
<ul style="list-style-type: none">Outlines the way results were presented in a study related to a technological innovation aimed at improving productivity in a horticultural industry	2
<ul style="list-style-type: none">Identifies a study related to a technological innovation aimed at improving productivity in a horticultural industry <p>OR</p> <ul style="list-style-type: none">Identifies at least ONE result from a study related to a technological innovation aimed at improving productivity in a horticultural industry	1

Question 3 (b)*Outcomes assessed: H3.4***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Details how characteristics of plants relate to their use in horticulture	4
<ul style="list-style-type: none">Outlines how a particular plant characteristic affects its use in horticulture	3
<ul style="list-style-type: none">Outlines a particular plant characteristic that affects its use in horticulture	2
<ul style="list-style-type: none">Identifies a plant characteristic that relates to its use in horticulture	1

Question 3 (c)

Outcomes assessed: H5.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> • Provides a detailed account of the influence of changing markets on production or post-harvest handling techniques used in horticultural production • Places a value on the impact of these changing markets 	7–8
<ul style="list-style-type: none"> • Describes an influence of changing markets on a production or post-harvest handling technique used in horticultural production and places a value on the impact of this changing market • Describes an additional production or post-harvest handling technique used in horticultural production 	5–6
<ul style="list-style-type: none"> • Describes an influence of changing markets on a production or post-harvest handling technique used in horticultural production and places a value on the impact of this changing market <p>OR</p> <ul style="list-style-type: none"> • Describes a production or post-harvest handling technique used in horticultural production 	3–4
<ul style="list-style-type: none"> • Outlines an influence of changing markets on horticultural production <p>OR</p> <ul style="list-style-type: none"> • Identifies an influence of changing markets on horticultural production <p>OR</p> <ul style="list-style-type: none"> • Outlines a production or post-harvest handling technique used in horticultural production 	1–2

Question 4 (a)*Outcomes assessed: H4.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features of the findings from a study of the development and implementation of an alternative agricultural system or technology	3
<ul style="list-style-type: none">Outlines the findings from a study of the development and implementation of an alternative agricultural system or technology	2
<ul style="list-style-type: none">Identifies a study related to the development and implementation of an alternative agricultural system or technology <p>OR</p> <ul style="list-style-type: none">Identifies at least ONE finding from a study of the development and implementation of an alternative agricultural system or technology	1

Question 4 (b)*Outcomes assessed: H3.4***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Describes techniques that can be used to market an agricultural innovation and outlines the effectiveness of each of these	4
<ul style="list-style-type: none">Describes a technique that can be used to market an agricultural innovation and outlines the effectiveness <p>AND</p> <ul style="list-style-type: none">Identifies a technique that can be used to market an agricultural innovation	3
<ul style="list-style-type: none">Outlines a technique that can be used to market an agricultural innovation <p>OR</p> <ul style="list-style-type: none">Identifies techniques that can be used to market an agricultural innovation	2
<ul style="list-style-type: none">Identifies a technique that can be used to market an agricultural innovation	1

Question 4 (c)

Outcomes assessed: H5.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> • Provides a detailed account of the legal and institutional requirements that must be met when introducing an alternative agricultural system, enterprise or technology • Places a judgement on the value of meeting each of these requirements against criteria 	7–8
<ul style="list-style-type: none"> • Describes a legal or institutional requirement that must be met when introducing an alternative agricultural system, enterprise or technology and places a value of this against criteria • Describes an additional legal or institutional requirement that must be met when introducing an alternative agricultural system, enterprise or technology 	5–6
<ul style="list-style-type: none"> • Describes a legal or institutional requirement that must be met when introducing an alternative agricultural system, enterprise or technology and places a value of this against criteria <p>OR</p> <ul style="list-style-type: none"> • Describes legal and institutional requirements that must be met when introducing an alternative agricultural system, enterprise or technology 	3–4
<ul style="list-style-type: none"> • Outlines a legal or institutional requirement that must be met when introducing an alternative agricultural system, enterprise or technology <p>OR</p> <ul style="list-style-type: none"> • Identifies a legal or institutional requirement that must be met when introducing an alternative agricultural system, enterprise or technology 	1–2

Question 5 (a)

Outcomes assessed: H4.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Provides characteristics and features of the way data was analysed in a study of the role of plant breeding or related research to improve plant productivity 	3
<ul style="list-style-type: none"> Outlines the way data was analysed in a study of the role of plant breeding or related research to improve plant productivity 	2
<ul style="list-style-type: none"> Identifies a study related to the role of plant breeding or related research to improve plant productivity <p>OR</p> <ul style="list-style-type: none"> Identifies at least ONE way data was analysed in a study of the role of plant breeding or related research to improve plant productivity 	1

Question 5 (b)

Outcomes assessed: H3.4

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> Relates the uptake and movement of soluble plant nutrients (ions) to the diffusion across concentration gradients in the cells and membranes of plants from the soil solution 	3–4
<ul style="list-style-type: none"> Outline that there is a movement of dissolved plant nutrients from the soil into the plant root <p>OR</p> <ul style="list-style-type: none"> Outlines that the movement of water affects the concentration of nutrients 	2
<ul style="list-style-type: none"> Identifies that plant nutrients are principally present in soil water <p>OR</p> <ul style="list-style-type: none"> Identifies that nutrients move around the plant 	1

Question 5 (c)

Outcomes assessed: H5.1

MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> • Provides a detailed account of techniques a farmer may use to manage soil moisture for plant production systems. • Places a judgement on the value each of these techniques against criteria 	7–8
<ul style="list-style-type: none"> • Describes a technique a farmer may use to manage soil moisture for plant production systems and places a value judgement and/or success of this technique against criteria • Describes an additional technique a farmer may use to manage soil moisture for plant production systems 	5–6
<ul style="list-style-type: none"> • Describes a technique a farmer may use to manage soil moisture for plant production systems and places a value judgement and/or success of this technique against criteria <p>OR</p> <ul style="list-style-type: none"> • Describes techniques a farmer may use to manage soil moisture for plant production systems 	3–4
<ul style="list-style-type: none"> • Outlines a technique a farmer may use to manage soil moisture for plant production systems <p>OR</p> <ul style="list-style-type: none"> • Identifies a technique(s) a farmer may use to manage soil moisture for plant production systems 	1–2

Question 6 (a)*Outcomes assessed: H4.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Provides characteristics and features of the way equipment was used in a study of a technology or practice related to the conservation and efficient use of water	2–3
<ul style="list-style-type: none">Identifies a study of a technology or practice related to the conservation and efficient use of water <p>OR</p> <ul style="list-style-type: none">Identifies at least ONE piece of equipment used in a study of a technology or practice related to the conservation and efficient use of water	1

Question 6 (b)*Outcomes assessed: H3.4***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">• Outlines regulations developed for the use of water in agricultural production systems• Relates the importance of these to water use in Australian agriculture OR <ul style="list-style-type: none">• Demonstrates a comprehensive understanding of developing regulations for the use of water in Australian agricultural production systems	4
<ul style="list-style-type: none">• Outlines a regulation developed for the use of water in agricultural production systems and relates the importance of this to water use in Australian agriculture OR <ul style="list-style-type: none">• Outlines a regulation developed for the use of water in agricultural production systems and identifies another regulation developed for the use of water in agricultural production systems	3
<ul style="list-style-type: none">• Outlines a regulation developed for the use of water in agricultural production systems OR <ul style="list-style-type: none">• Outlines the importance of or a reason for the development of regulations for the use of water in agricultural production systems	2
<ul style="list-style-type: none">• Identifies the importance of or a reason for the development of regulations for the use of water in agricultural production systems OR <ul style="list-style-type: none">• Identifies a regulation developed for the use of water in agricultural production systems	1

Question 6 (c)*Outcomes assessed: H5.1***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">Provides a detailed account of strategies using examples, involved in a whole farm or catchment management program and places a value judgement on this program against criteria	7–8
<ul style="list-style-type: none">Describes strategies that are involved in a whole farm or catchment management program and recognises the importance of considering the interaction of these strategies in the planning phase, using at least one example	5–6
<ul style="list-style-type: none">Describes strategies involved in a whole farm or catchment management program	3–4
<ul style="list-style-type: none">Outlines a strategy involved in a whole farm or catchment management programORIdentifies a strategy involved in a whole farm or catchment management program	1–2

Agriculture Paper 2

2009 HSC Examination Mapping Grid

Question	Marks	Content	Syllabus outcomes
Question 1 — Agribusiness			
1 a	3	Research methodology	H4.1
1 b	4	Processes in agricultural systems	H3.4
1 c	8	Innovation, ethics, current issues	H5.1
Question 2 — Animal Management			
2 a	3	Research methodology	H4.1
2 b	4	Processes in agricultural systems	H3.4
2 c	8	Innovation, ethics, current issues	H5.1
Question 3 — Horticulture			
3 a	3	Research methodology	H4.1
3 b	4	Processes in agricultural systems	H3.4
3 c	8	Innovation, ethics, current issues	H5.1
Question 4 — Innovation and Diversification			
4 a	3	Research methodology	H4.1
4 b	4	Processes in agricultural systems	H3.4
4 c	8	Innovation, issues, current issues	H5.1
Question 5 — Plant Management			
5 a	3	Research methodology	H4.1
5 b	4	Processes in agricultural systems	H3.4
5 c	8	Innovation, ethics, current issues	H5.1
Question 6 — Sustainable Land and Resource Management			
6 a	3	Research methodology	H4.1
6 b	4	Processes in agricultural systems	H3.4
6 c	8	Innovation, issues, current issues	H5.1