BOARD OF STUDIES
NEW SOUTH WALES

2013 HSC Primary Industries Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 16 (a)

Criteria	Marks
• Lists TWO personal electronic devices	2
• Lists ONE personal electronic device	1

Answers could include:

Mobile phone
iPod

Other items could be:
iPad
MP3 Player

Question 16 (b)

Criteria	Marks
• Gives TWO appropriate reasons for the directive	2
• Gives ONE appropriate reason for the directive	1

Sample answer:

1. To minimise worker distraction during the day from trying to look at their Facebook page, tweeting etc

2. The employer has safety concerns for workers who use a phone while they may be using a piece of machinery or driving a car during a phone call.

Answers could include:

Other reasons could be:

1. The employer wants to minimise loss of work time from workers answering personal phone calls during work time

2. The employer wants to ensure that the workers comply with the relevant laws if they drive a car during work time.

Question 16 (c)

Criteria	Marks
• Names TWO emerging technologies and outlines one point for AND one point against for each	5
• Names TWO emerging technologies and outlines one point for OR against for each	4
• Names ONE emerging technology and outlines one point for AND one against OR • Names TWO emerging technologies and outlines one point for OR one point against	3
• Names ONE emerging technology and outlines one point for OR against	2
• Provides some relevant information about an emerging technology OR • Names TWO technologies	1

Sample answer:

[The answer includes at least two relevant examples of emerging technology such as mobile phones, iPads, GPS systems, hand-held scanners, personal location devices.]

Advantages of a mobile phone are that it is easy to use and the message is relayed quickly so new work instructions can be quickly sent. A disadvantage is that the phone may not always be in range to receive messages. There are also safety issues if you answer the phone while working or driving a car or operating a piece of machinery. Having a mobile phone is a possible distraction if used for your personal phone and takes time away from the job you are doing. The battery could fail at a critical time.

Hand held location device is accurate for the location and good for working in remote areas. Disadvantages are that they are expensive to purchase, and will not function if there is no clear line of sight to satellite. Also the battery could fail and you would not be able to send verbal messages.

Answers could include:

GPS – advantages are they have a good range of functions, enable quick directions to be found to a new work site. Maps allow for accurate route planning.

Disadvantages that they are battery operated which could fail, there could be problems of operation if no line of sight to satellites. The software needs to be regularly updated and there is a need for training in use.

Other examples of emerging technologies are:

- Robotics
- Computer controlled devices.

Question 17 (a)

Criteria	Marks
• Correctly identifies direction of wind	1

Sample answer:

X – clockwise

Question 17 (b)

Criteria	Marks
• Correctly identifies the meteorological meaning of the line at **Z** on the weather map as a Trough line	1

Sample answer:

Z – Trough line

Question 17 (c)(i)

Criteria	Marks
• Correctly identifies the weather conditions at **W**	1

Sample answer:

The weather at **W** will be hot, dry and windy.

Question 17 (c)(ii)

Criteria	Marks
• Correctly outlines at least TWO potential implications of the weather conditions at **W** on staff	2
• Correctly outlines a potential implication of the weather conditions at **W** on staff	1

Sample answer:

The hot, dry and windy conditions could create the potential for a high fire danger and could impact staff by increasing the potential for dehydration or heat stress if working outside. The conditions will create a potential for sunburn and staff will be in danger if working at height in strong winds. Staff will be at risk from bush fires, which could occur due to the conditions.

Question 17 (c)(iii)

Criteria	Marks
• Gives TWO preventative actions on the work programs of staff providing one advantage and one disadvantage	4
• Gives TWO preventative actions on the work programs of staff providing one advantage or one disadvantage	3
• Gives ONE preventative action on the work programs of staff providing one advantage and one disadvantage	2
• Identifies ONE preventative action on the work programs of staff providing one advantage or one disadvantage	1

Sample answer:

- Re-schedule the timing of outdoor activities to a day where weather conditions are more favourable. The advantage of this would be that it would not expose the staff to hot, dry conditions. A disadvantage would be that it would be difficult to implement if the tasks were critical eg mustering livestock for sale the next day
- Re-schedule activities to cooler times of the day. The advantage of this would be to reduce the risks of heat stress to staff and a disadvantage would be the requirement of staff to work outside normal working hours which could impact on other activities

Answers could include:

Other preventative actions that could be taken are:

- Providing employees with sun protection, extra water and advise on how to minimise impacts of hot dry windy weather. PPE is not as effective because sunscreen relies on workers re-applying it on a regular basis to remain effective. PPE does not take the worker out of the heat of the sun if they continue to work outdoors
- Ensure that the workers take extra work breaks during the period
- Ensure that all fire fighting equipment is ready and primed for use. You would also move it to suitable locations on your property to ensure that it is easily available to fight any fires that could break out
- Need to change activities to take account of high fire danger eg not use equipment outdoors that could create sparks
- Ensure that the emergency communication works and all know how to use it and who to contact if an emergency occurs
- Remind workers not to do any work that could cause a spark during the hot dry period
- Ensure all people at your enterprise know the emergency evacuation plan

Question 18 (a)

Criteria	Marks
• Explains the difference between hazard AND a risk giving examples of BOTH	3
• Explains a hazard AND a risk and gives an example of either	2
• Explains a hazard OR a risk, or gives an example of a hazard or risk	1

Sample answer:

A hazard is the source of a potential cause of harm to a person, whereas a risk is the likelihood of a person being harmed and the severity of that harm to a person. Thus a water spill represents the potential of a slip injury (hazard) to a person. The risk (likelihood) of the person being injured, or the severity of the injury depends on how they fall and what they fall on. They could break a limb, suffer head injuries or just be bruised in the fall. The likelihood of injury will depend on the size of the spill, the footwear worn, etc.

Question 18 (b)

Criteria	Marks
• For a named hazard gives THREE risk control measures and evaluates the effectiveness of the measures in terms of reducing the risk associated with the hazard	6
• For a named hazard gives TWO risk control measures and provides some evaluation of how they could reduce the risk OR • Gives THREE control measures and outlines how they could reduce a WHS hazard	4–5
• Lists TWO risk control measures and some reasons as to how they could reduce a WHS hazard OR • Lists THREE control measures and how they link to reducing a WHS hazard	3
• Mentions risk control and how it links to reducing a WHS hazard	2
• Gives some relevant information on risks or risk control	1

Sample answer:

There is a range of risk control measures that could be implemented. They can be termed the hierarchy of control. The main risk control measures are the elimination of the risk, substitution of something to reduce the risk, the modification of, for example, a piece of equipment, the isolation of the hazard and using engineering controls to reduce the risk.

The only effective method of completely removing the risk is to eliminate it. Any other method will only reduce the likelihood of the risk occurring. The use of engineering controls such as erecting a permanent barrier at a high piece of equipment reduces the risk of a person being injured by falling off. Substituting a safe piece of equipment for a faulty piece of equipment only reduces the risk of injury. The person may still be injured by incorrect use of the equipment.

Other risk control measures can be the use of PPE. This again only reduces the risk of injury. It does not prevent an injury occurring because the person may use the PPE incorrectly or not use it at all.

Question 19 (a)

Criteria	Marks
• Names TWO pieces of equipment and features of both	3
• Names TWO pieces of equipment and features of one	2
• Names TWO pieces of equipment	1

Sample answer:

Boom spray can be attached to a tractor where it is driven by a PTO, or to a quad bike or ute where it runs off the battery. They generally have a large spray tank and multiple nozzles, which can be adjusted for different jobs. Boom sprays cover large areas of land.

Hand held knapsack generally has a small tank and single nozzle. The flow rate can be adjusted. They are portable. These are used for small jobs and spot spraying.

Answers could include:

- Hand held motorised spray unit
- Wick wiper
- Pneumatic sprays
- Drench guns
- Backline applicators

Question 19 (b)

Criteria	Marks
• Lists at least 5 steps in a logical sequence that includes the following elements: – Pre-operational and safety checks – Mixing and applying chemicals – Post-application procedures – Record keeping	5
• Lists 5 steps in any order that includes the following elements: – Pre-operational and safety checks – Mixing and applying chemicals – Post-application procedures – Record keeping	4
• Lists 5 steps in any order that includes 3 of the following elements: – Pre-operational and safety checks – Mixing and applying chemicals – Post-application procedures – Record keeping OR • Lists 3–4 steps in any order that includes the following elements: – Pre-operational and safety checks – Mixing and applying chemicals – Post-application procedures – Record keeping	3
• Lists 2 steps in any order that includes some the following elements: – Pre-operational and safety checks – Mixing and applying chemicals – Post-application procedures – Record keeping	2
• Includes some relevant information that applies to a Standard Operating Procedure for chemical application	1

Sample answer:

Students are only required to list 5 steps in a logical sequence. This is the correct sequence and any five in a logical sequence are acceptable.

1. Ensure correct PPE is worn.
2. Carry out pre-operational safety checks on the piece of equipment and ensure it is free from chemical residues.
3. Repairs are carried out according to manufacturer's specifications.
4. Prepare the piece of equipment for use eg connect safely to tractor or connect safely to power source, connect drench gun to chemical storage.

5. Test equipment to ensure it is in working order including correct chemical output and make repairs and adjustments as necessary according to manufacturer's specifications.
6. Prepare and mix chemical solution according to chemical label specifications.
7. Fill application equipment with the required amount of chemical solution for the job.
8. Clean up any spillage and dispose of contaminated material correctly.
9. Apply chemical to situation using recommended label rates.
10. Decontaminate equipment and dispose of excess chemicals and rinsate.
11. Post-use maintenance of equipment.
12. Store equipment and chemical safely and securely.
13. Complete chemical application records.

Section III

Question 20

Criteria	Marks
• Identifies a variety of resources which could include energy, infrastructure, human, materials, natural, stock, technology and associated consumables used in a primary industries enterprise • Analyses some strategies to improve the efficient use of those resources • Includes a range of methods used to measure and monitor resource use	13–15
• Identifies several resources used in a primary industries enterprise which could include energy, infrastructure, human, materials, natural, stock, technology and associated consumables • Outlines some strategies to improve the efficient use of those resources • Includes a range of methods used to measure and monitor resource use	10–12
• Identifies several resources which could include energy, infrastructure, human, materials, natural, stock, technology and associated consumables used in a primary industries enterprise • Provides points about efficient resource use • Includes some methods used to measure and monitor resource use	7–9
• Identifies at least TWO resources which could include energy, infrastructure, human, materials, natural, stock, technology and associated consumables used in a primary industries enterprise • Provides some relevant information on efficient resource use • Includes a method used to measure and monitor resource use	4–6
• Lists some resources and/or provides some relevant information about resources used in a primary industries enterprise and/or how they are measured or monitored	1–3

Answers could include:

The enterprise is broad acre farming.

This enterprise will use a wide variety of resources. Some of the resources it would use are:

1. Electricity – This would be used for powering pumps, the workshop and for domestic use
2. Fuel – This would be used for trucks, motor vehicles, 4 WD drives, tractors and motorbikes
3. Human – This would be the owner/operator plus contractors for harvesting, sowing etc
4. Fertilisers – These would be used to fertilise the crops grown
5. Chemicals – These would be used to control a range of pest and diseases in the crops sown
6. Infrastructure – This is the machinery and farm equipment, sheds, silos etc used on the farm
7. Natural Resources – These could be shelter belts to allow native fauna to shelter that provide some biological control of the crops or remnant vegetation on the farm that shelters native animals that are beneficial to the farm.

8. Technology and associated consumables. These could include GPS, computers and software.

There are a range of methods to measure and monitor resource use on the farm. Some of these are:

1. The use of invoices and bills to capture purchase or usage data and the creation of relevant graphs to monitor usage over time
2. The use of vehicle data logs to capture vehicle and machinery use over time
3. Contract data from application records. This could be graphed to monitor usage over time
4. A farm map of infrastructure could be kept and updated to monitor changes in location. Records of purchase of infrastructure should be kept to measure the quantity of infrastructure on the farm
5. Records should be kept of machinery and equipment that measure repairs and maintenance and the cost of these actions. This should be related to the purchase price and their current value to determine if an item should be replaced.

One of the strategies the farmer should consider using is the fitting of low-energy-use lights such as LEDs. The plan should include the replacement of high-energy-use equipment with low-energy-usage equipment. They could also consider the introduction of solar power and wind energy to replace current mains electricity that would be mainly from coal-powered sources.

Another strategy the farmer should consider is dual usage of new vehicles when it comes time to purchase them. They could also reduce the number of trips they make to town by planning their purchasing needs and travelling less frequently. They could also look at substituting diesel, gas or ethanol for petrol in their vehicles. They should review which vehicle they use for each job and choose the most fuel efficient one for each task. Travelling with more than one person in a vehicle will help reduce fuel use and make it more efficient and sustainable for the farmer.

Their fertiliser use should be reviewed by having their soil tested and applying according to soil needs not tradition. They could investigate the use of organic fertilisers rather than chemical ones. They could also improve the health of their soil be using no-till farming methods. They should also consider the use of leguminous crops to improve soil health and fertility.

Another strategy to be considered is more efficient infrastructure. This should include the use of sustainability principles when building new buildings. They should consider the use of renewable resources and recycled products when they build or acquire new infrastructure. They should consider the purchase of low emission vehicles when they replace an existing vehicle or buy a new one.

The farmer should pay particular attention to the natural resources on the farm. A plan needs to be developed to protect all of the natural resources on the farm and to increase their biodiversity. The farmer should consider the planting of more trees and shrubs to attract more birds to the farm and increase biodiversity. They should implement soil erosion programs, where necessary, to reduce and eliminate the problems of soil erosion. They should plant more ground covers and consider the greater use of no-till farming practices to increase soil fertility, carbon content and reduce the risk of soil erosion.

Section IV

Question 21 (a)

Criteria	Marks
• Outlines THREE steps in a process of assessing livestock health giving examples including: – Observation of livestock in situ – Observation of individual animals – Decision about further intervention	3
• A process is outlined that contains TWO of these steps in the correct sequence, OR contains THREE steps but not in the sequence listed	2
• An attempt is made to outline a process	1

Sample answer:

Observe livestock by checking for behavioural and abnormal changes such as isolation of a particular animal, lameness or limping.

Restrain and observe individual animals for external symptoms of disease, such as body condition by weighing and condition scoring, checking the feet.

Evaluate the situation and make a decision as to whether you need to call the veterinarian to conduct tests eg faecal egg count, blood tests if the problem cannot be detected.

Answers could include:

Observing livestock – listlessness or lethargy, unable to stand, drooping ears, rubbing on posts, weight loss, signs of scouring, bullying.

Restrain and observe individual animals for external symptoms of disease, examining mouth, teeth and gums, mucus membranes, eyes, discharge from back end, faecal motions (eg blood in faeces), temperature, coat appearance (shiny, dull), coughing, nasal discharge, signs of external parasites.

Evaluate the situation and make a decision as to whether you need to call the veterinarian to conduct tests eg test urine and blood for abnormalities, heart rate, nasal swabs if the problem cannot be detected.

Question 21 (b)

Criteria	Marks
• Two parasitic infestations are named and accurate symptoms are given for each named	4
• Two parasitic infestations named and some correct symptoms given	3
• One parasitic infestation named and some symptoms given	2
• A parasitic infestation named OR some symptoms given of a parasitic infestation	1

Sample answer:

There are a number of parasite infestations that may affect an animal. The symptoms for gastro-intestinal worms in livestock could include abnormal faeces or scouring.

Animals could be weak and unable to exercise normally. Weight loss and anaemia could be apparent as well as a rough coat or lack of appetite.

The symptoms of a lice infestation could include animals rubbing against objects to relieve irritation, an obvious hair loss or ragged fleece from rubbing and weight loss.

Answers could include:

Other parasitic infestations that could be used are:

- Liver fluke
- Ticks
- Heartworm
- Hydatids
- Fly strike
- Bot flies
- Mites

Question 21 (c)

Criteria	Marks
• Analyses in detail a range of prevention and treatment strategies for a parasite infestation	8
• Analyses a range of prevention and treatment strategies for a parasite infestation	6–7
• Discusses prevention and/or treatment strategies for a parasite infestation	4–5
• Lists some prevention and/or treatment strategies for a parasite infestation	2–3
• Gives some relevant information about prevention and/or treatment strategies for a parasite infestation	1

Answers could include:

Prevention and treatment strategies that could be used include:

Prevention/Treatment Strategy	For	Against
• Selective breeding of livestock for parasite resistance. This involves choosing livestock which are resistant to local parasites	• Long term protection of livestock and their offspring against parasites • Maintain organic status • Reduces the need for chemicals and hence environmental impacts • Economic benefits as it reduces treatment costs	• Reduces genetic diversity in livestock and is a form of genetic modification
• Environmental cleanliness • Paddock rotation where animals are moved from paddock to paddock • Improved pen hygiene practices eg hosing out, disinfecting pens, cages etc • Treat all new livestock that come onto property to minimize or reduce the re-infection rate • Frequent removal and replacement of bedding materials • Property bio-security	• Minimise the risk of re-infection or break the lifecycle of the parasite	• Good management and recording practices and procedures are required, which use extra time and resources • More labour intensive • More resources required such as fencing materials, concentrate feeding equipment, chemicals (disinfectants) • Increased labour costs of maintaining hygiene practices

Prevention/Treatment Strategy	For	Against
• Reduced stocking rates	• Lowers risk of re-infection • Improves feed availability which maintains body condition • Method of maintaining organic status of a farm • More likely to satisfy animal welfare guidelines	• More costly as more land/space is required. Lowers production efficiency
• Vaccination eg cattle tick	• Prevention of tick fever in cattle	• Expensive due to handling and vaccine costs
• Mulesing, tail docking of sheep to reduce chance of blow fly strike	• Lifetime protection • Reduces the need for chemical use and costs associated with this and decreases long term sheep discomfort	• Animal welfare resistance to this procedure due to short term pain in the animal • Costs associated with carrying out the procedure • Chance of infection of the wound site for mulesing and tail docking
• Crutching	• Short term protection against fly strike	• Costly
• Strategic use of chemicals such as, drench by administering via backline drench where the chemical is absorbed into the bloodstream and distributed around the body, oral drench using a drench gun, or injectable drenches	• The use of chemicals is a quick and effective response and can be quickly applied • If applied strategically costs can be reduced. You can ensure all animals are treated regularly	• Chemicals need to be rotated for effectiveness and control of resistance • Costs associated with chemicals and application equipment • Increased costs of labour for administering chemicals

Question 22 (a)

Criteria	Marks
• A sequential process is outlined that allows plant health to be assessed giving examples including: – Observation of plants in situ – Observation of individual plants – Decision about further intervention	3
• A process is outlined that contains at least two of these three steps in sequence OR contains the three steps but not in sequence	2
• An attempt is made to outline a process	1

Sample answers:
A process that could be used to assess the health of a plant is:

1. Broad observations of the plant where it is growing. This will involve:
   - Looking at the leaves of the plant:
     – for abnormal leaf colour (discolouration)
     – wilting – drooping leaves
     – holes in leaves
   - Observation of plant structure:
     – Is the plant upright?
     – Are their limbs or branches broken?
   - Look at the plant to see if there are:
     – Any insects present
     – Any caterpillars present

2. A physical inspection of the plant using either a hand lens or a microscope to see if there are any small insects on the plant

3. Take a leaf sample and/or a soil sample and send off for analysis if there are no obvious signs of pest or disease on the plant. This may show nutrient deficiency in the plant, incorrect soil pH or lack of nutrients in the soil. It may reveal that the soil is saline or contains chemicals harmful to the plant.

Answers could include:

1. Broad observations of the plant where it is growing. This will involve:
   - Looking at the leaves of the plant:
     - signs of leaves being eaten
     - leaves on the ground/dropping off
     - loss of leaves
     - skeletonisation of leaves
     - sooty mould on leaves or stems
     - scale on leaves, stems
     - pronounced veins in old/new leaves
   - Observation of plant structure:
     - Are there holes in the stem of the plant?
     - Inspect the stem where it emerges from the ground
     - Fruit setting and not growing, fruit damage, abnormal plant structure
   - Look at the plant to see:
     - How many insects present
     - What type of insect are they – sap sucking, leaf eating, leaf burrowing

Question 22 (b)

Criteria	Marks
• Two pests are named and accurate signs and symptoms are given for each pest named	4
• Two pests named and some correct signs and symptoms given	3
• One pest named and some signs and symptoms given	2
• A pest named or some signs and symptoms given of a pest	1

Sample answer:

There are a number of pests that may affect a plant. The following table gives the pest and some of the symptoms of that pest.

Pest	Symptoms
Scale	• Sooty mould on the leaves and stems of the plant (this is a black covering on the leaves or stems of the plant) • Ants crawling on the stems and leaves of the plant • Various types of scale present such as hard/soft, white, black, brown
Caterpillars	• Obvious presence of caterpillars on plant • Leaves showing signs of being eaten • Leaves skeletonised • Large clumps of webbing binding leaves together • Fras present • Signs of excreta present on leaves

Answers could include:

Other pest/diseases that could be used are:

- Aphids
- Mites
- Red spider
- Pear and Cherry slug
- Nematodes
- Borers
- Grasshoppers
- Leaf miner
- Sawfly larvae
- Heliothus
- Psyllids

For any pest or disease chosen the answer should indicate what are the obvious and clear symptoms associated with that pest or disease.

Question 22 (c)

Criteria	Marks
• Analyses in detail a range of prevention and treatment strategies for a pest infestation	8
• Analyses a range of prevention and treatment strategies for a pest infestation	6–7
• Discusses prevention and/or treatment strategies for a pest infestation	4–5
• Lists some prevention and/or treatment strategies for a pest infestation	2–3
• Gives some relevant information about prevention and/or treatment strategies for a pest infestation	1

Sample answer:

There is a range of treatments and control measures to control pest and diseases in plants.

Prevention and Treatment Strategy	**For**	**Against**
Biological	• This is a safe environmental method	• It is slower to act to treat • There is a need to find the appropriate beneficial control mechanism for the insect • Not all pests and diseases susceptible to biological control • More than the target species may be impacted • There is a need to find a source for the control agent such as attracting correct bird to the area, buying beneficial organisms • Beneficial organisms may be impacted by other forms of treatment such as chemicals
Chemical	• Can act quickly • Targets specific insect	• May kill non-target/beneficial pests diseases • May create harm to environment from run-off from site • Issues of disposal of excess chemical after application • May require regular treatment to control pest/disease
Cultural	• Companion planting to attract desired insect	• May not be able to target specific pest or disease • Slower to act

Prevention and Treatment Strategy	For	Against
		• Only successful for some plants such as crop rotation in vegetables
Mechanical		• Limited number of methods • Will need very regular application (daily) to control insect such as using water spray to remove aphids from plants
Physical	• Easy to use if insect on one plant • If only one plant, its removal and destruction is very quick and simple	• More difficult if large number of plants infected • Must be done very regularly to prevent build up on plants • May damage plant if not done correctly

Primary Industries

2013 HSC Examination Mapping Grid

Section I

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
1	1	Weather-Monitoring conditions – Interpreting weather maps p47 Interpreting Weather and Climate information p48	X							
2	1	Chemicals – Working with Chemicals – Safe and effective chemical application-re entry and withholding periods p33			X		X			
3	1	Working in the industry – Working with others – importance of team work when working in the primary industries workplace p54 Delivering quality work outcomes through teamwork and group work p54		X			X		X	
4	1	Working in the Industry – Employment – types of employment in Primary Industry p52							X	
5	1	Safety – Risk management – Risk control p38			X		X	X		
6	1	Weather – Monitoring conditions – Interpreting weather and Climate information p47, 48 – Air Pressure p48			X					X
7	1	Sustainability – Resources – Concept of resource efficiency in a primary industries work environment p41			X	X	X			
8	1	Weather – Weather and Climate – elements of weather and climate – wind chill p47 Monitoring conditions – Graziers alert p47			X		X			X
9	1	Safety – Safe work practices and procedures – legal weight limits p37			X			X	X	
10	1	Chemicals – OHS – Path of entry p32			X				X	X

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
11	1	Working in the Industry – Employment – differences between an award, agreement and contract p52						X	X	
12	1	Working in the Industry – purpose and intent of OHS legislation p52 Safety – OHS Compliance p36	X						X	
13	1	Chemicals – Working with chemicals – calculations p32			X		X			
14	1	Safety – OHS compliance – Safety signs p36	X		X				X	
15	1	Chemicals – Working with Chemicals – Calculations p32			X		X			

Section II

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
16 (a)	2	Working in the Industry – Primary Industries worker – Work practices in accordance with industry standards and workplace/enterprise policy p53	X					X		X
16 (b)	2	Working in the industry – Working in the industry – Work requirements that apply to working in the industry p51–52	X					X		
16 (c)	5	Working in the industry – Working with others – Communication in the workplace p53	X					X		
17 (a)	1	Weather - Monitoring conditions- Forecasting techniques for monitoring weather conditions p47			X		X			X
17 (b)	1	Weather – Interpreting weather and climate conditions p47–48			X					
17 (c)(i)	1	Weather-Managing conditions – Preventative action to minimize loss, damage or harm as a result of changes in weather and climate p48			X					

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
17 (c)(ii)	2	Weather – Managing conditions – Primary industries workplace/enterprise planning p48	X		X	X	X			
17 (c)(iii)	4	Weather – Managing conditions – Primary industries workplace/enterprise planning p48	X		X		X			
18 (a)	3	Safety-Risk management – Difference between a hazard and a risk p38			X		X			
18 (b)	6	Safety-Risk Management – Risk control p38	X		X		X			
19 (a)	3	Chemicals – Equipment – Range of Chemical application equipment p31						X		X
19 (b)	5	Chemicals – Equipment – Working knowledge, fault identification, maintenance p31	X		X	X	X			

Section III

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
20	15	Sustainability – Resources – Concept of resource efficiency in a Primary Industries work environment p41 Sustainability – Resources – Measuring and monitoring resource consumption within a Primary Industries workplace/ enterprise p42 Sustainability – Resources – Identify opportunities for improved resource efficiency in a Primary Industries work environment p42	X	X	X	X	X			X

Section IV

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
21	15	Livestock Health and Welfare – Behaviour – Recognise behavioural characteristics of livestock p59 Health – Recognise and assess livestock condition p59-60 Health – Ill health in livestock – p60 Health status of livestock assess and monitor – p60 Treatment – common treatment procedures to maintain livestock health and welfare p60-61			X	X	X			
22	15	Plant pests, diseases and disorders – Recognition of plant pests, diseases and disorders * for a range of significant plant pests, diseases and disorders p64 Management – methods for the treatment and control of plant pests, diseases and disorders p64 Management – treatment of plant pests, diseases and disorders p65 Management – principles and strategies for control of plant pests, diseases and disorders p65 Management – appropriate selection of control measure p65			X	X	X			