
2018 HSC Primary Industries Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 16 (a)

Criteria	Marks
• Lists TWO advantages of work teams with culturally diverse backgrounds	2
• Lists ONE advantage of work teams with culturally diverse backgrounds	1

Sample answer:

Work teams that are culturally diverse are likely to show more tolerance and acceptance of others. People are encouraged to accommodate cultural differences and promote tolerance in the workplace. The work teams have the benefit of being able to learn about other cultures and enhance cross-cultural communication skills.

Question 16 (b)

Criteria	Marks
• Describes valid strategies to support workers from culturally diverse backgrounds	3
• Outlines valid strategies to support workers from culturally diverse backgrounds	2
• States a strategy relating to workers from culturally diverse backgrounds	1

Sample answer:

Workplaces can include culturally appropriate workplace orientation programs, events to celebrate cultural diversity, meetings to discuss and resolve issues relating to cultural sensitivities. They can also allow workers to practise their beliefs and customs.

Question 16 (c)

Criteria	Marks
• Outlines the rights and responsibilities of employees in relation to anti-discrimination in the workplace	3
• States the rights and responsibilities of employees in relation to anti-discrimination in the workplace	2
• States a right or responsibility of employees in relation to anti-discrimination in the workplace	1

Sample answer:

Employees can expect to be treated fairly in the workplace and not be discriminated against due to their race, colour, sexual preference, sex, age, physical or mental disability, marital status, pregnancy or religion. It is the responsibility of employees to afford the same respect to others within the workplace.

Question 17

Criteria	Marks
<ul style="list-style-type: none"> Identifies TWO emerging technologies and describes in detail their effects on the primary industries sector 	6
<ul style="list-style-type: none"> Identifies TWO emerging technologies and describes their effects on the primary industries sector 	5
<ul style="list-style-type: none"> Identifies TWO emerging technologies and outlines their effects on the primary industries sector 	4
<ul style="list-style-type: none"> Identifies TWO emerging technologies and states the effect/s of one on the primary industries sector <p>OR</p> <ul style="list-style-type: none"> Identifies ONE emerging technology and outlines their effects on the primary industries sector 	3
<ul style="list-style-type: none"> Identifies ONE emerging technology and gives a brief outline of its effect/s on the primary industries sector <p>OR</p> <ul style="list-style-type: none"> Identifies TWO emerging technologies 	2
<ul style="list-style-type: none"> Identifies ONE emerging technology 	1

Sample answer:

<i>Emerging technology</i>	<i>Effects</i>
1 Drones	Drones reduce the amount of time farmers spend driving in paddocks to observe livestock or monitor crops. The drone can travel over the paddocks and send real time images back to the farm office.
2 GPS	Farmers are able to use GPS to map soil nutrient status before sowing and during growth of the crop. It can also be used to help track workers on remote properties to ensure safety.

Answers could include:

- Smart phone apps
- Robotics
- Biotechnologies
- Electronic identification devices.

Question 18 (a)

Criteria	Marks
• Identifies a biosecurity risk and outlines the potential effect on a primary industries enterprise	2
• Identifies a biosecurity risk	1

Sample answer:

Johne's disease is a wasting disease of ruminants. It can also enter water and feed sources. The disease causes a significant loss in production.

Question 18 (b)

Criteria	Marks
• Identifies TWO pieces of information that should be recorded in relation to biosecurity	2
• Identifies ONE piece of information that should be recorded in relation to biosecurity	1

Sample answer:

- PIC number
- Identification of plants, stock and consumables

Answers could include:

Farm inputs, outputs, resources and infrastructure, production practices, names of vets, agents, contractors, training provided, NVDs, crop and livestock treatments, livestock health statements.

Question 18 (c)

Criteria	Marks
• Explains how a primary producer can prevent threats to biosecurity	3
• Outlines how a primary producer can prevent threats to biosecurity	2
• Makes a relevant statement about biosecurity	1

Sample answer:

Farmers can prevent threats to biosecurity by avoiding contamination by weeds, pests and diseases. They can do this by tracking the movement of living material onto and from the farm, protecting plants and animals from infectious diseases and pest infestation and following hygiene practices.

Question 19 (a)

Criteria	Marks
<ul style="list-style-type: none"> Identifies ONE common injury and describes the basic first aid which would be required in this situation 	3
<ul style="list-style-type: none"> Identifies ONE common injury and outlines the basic first aid required in this situation 	2
<ul style="list-style-type: none"> Lists ONE common primary industries injury or the basic first aid which would be required in this situation 	1

Sample answer:

One common injury in a primary industries workplace is a broken limb. The basic first aid required in this situation is to keep the patient still, control any bleeding, splint and immobilise the limb. Check bandage every 15 minutes for swelling or loss of circulation.

Question 19 (b)

Criteria	Marks
<ul style="list-style-type: none"> Describes strategies for preventing workplace injuries 	4
<ul style="list-style-type: none"> Outlines strategies for preventing workplace injuries 	3
<ul style="list-style-type: none"> Outlines a method of preventing workplace injuries 	2
<ul style="list-style-type: none"> States a method of preventing workplace injuries 	1

Sample answer:

Workplace injuries can be prevented in a number of ways. The best way is to remove from the workplace the hazard that could lead to injury. This is the most effective way to prevent injury but it may not always be possible. WHS induction training (general, work activity and site-specific), adherence to safe systems of work and ensuring all workers are aware of and follow standard operating procedures (SOPs) will help to prevent injury but workers may still be injured because they do not follow the protocols. The correct selection and use of PPE and using appropriate manual handling techniques can also help to reduce the chance of an injury. When all of these procedures are used there is a greater chance of preventing injury.

Question 20 (a)

Criteria	Marks
<ul style="list-style-type: none"> Correctly calculates the total amount of chemical required 	1

Sample answer:

$$1.45 \text{ L} \times 20 \text{ ha} = 29 \text{ L}$$

$$1.15 \times 35 \text{ ha} = 40.25 \text{ L}$$

$$= 69.25\text{L}$$

Question 20 (b)

Criteria	Marks
<ul style="list-style-type: none"> Calculates the correct percentage 	2
<ul style="list-style-type: none"> Shows understanding of some aspects of the calculation by working but does not get the correct answer 	1

Sample answer:

$$69.25/150 \times 100/1 = 46.17\%$$

Acceptance 46%–46.2%

Question 20 (c)

Criteria	Marks
<ul style="list-style-type: none"> Explains the importance of preparing chemicals as per label instructions 	4
<ul style="list-style-type: none"> Outlines the importance of preparing chemicals as per label instructions 	3
<ul style="list-style-type: none"> States the importance of preparing chemicals as per the label instructions 	2
<ul style="list-style-type: none"> Provides some relevant information about the preparation of chemicals 	1

Sample answer:

It is important to prepare and mix chemicals as per label instructions for a number of reasons. If you don't follow the instructions you could be breaching chemical legislation and you could face charges or fines as a result. If you mix chemicals at a rate which is greater than recommended by the label you could cause damage to the environment due to a spillage or run-off. You could also damage your own farm environment or crop. When applying chemicals at rates other than recommended, there is a risk of either over or under treatment. You could also cause illness to yourself or other workers if the chemical is applied at a rate above that specified by the label.

Section III

Question 21

Criteria	Marks
<ul style="list-style-type: none"> • Demonstrates an extensive knowledge of weather and climate and links this to their impact on primary industries planning and production in a coherent, logical and succinct manner • Uses industry terminology accurately and appropriately supported by relevant examples 	13–15
<ul style="list-style-type: none"> • Demonstrates a thorough knowledge of weather and climate and links this to their impact on primary industries planning and production in an effective and organised manner • Uses industry terminology appropriately supported with examples 	10–12
<ul style="list-style-type: none"> • Demonstrates a sound knowledge of climate and/or weather and links this to their impact on primary industries planning and production, and communicates this in an organised manner • Uses some industry terminology appropriately supported with examples 	7–9
<ul style="list-style-type: none"> • Demonstrates and communicates a basic knowledge of meteorological conditions for planning and/or production using some industry terminology 	4–6
<ul style="list-style-type: none"> • Demonstrates an elementary knowledge of meteorological conditions 	1–3

Answers could include:

Students could discuss the impact of weather and climate – elements and conditions, monitoring conditions, assistance in managing conditions and reporting and recording of conditions and weather events.

- A range of meteorological conditions could include:
 - rainfall
 - extremes of temperature
 - high and low pressure systems
 - wind
 - extreme weather events such as wind chill, heat waves, frosts and flooding.
- Impacts of weather on the following:
 - crops and livestock
 - commercial decisions and activities
 - environment
 - natural resources
 - property
 - safety
 - work tasks.

In their responses students could use specific examples to demonstrate the importance of meteorological conditions to a primary industries workplace in terms of:

- management and planning
- long-term and contingency plans
- adjusting plans to respond to weather conditions
- responding to extreme weather events
- using historical data.

Section IV

Question 22 (a)

Criteria	Marks
• Outlines the purpose of animal welfare guidelines	2
• States the importance of animal welfare guidelines	1

Sample answer:

Guidelines state animals are to be free of pests, diseases and predation, have access to food, water and shelter, are managed in a low stress manner and can exhibit normal animal behaviour.

Question 22 (b)

Criteria	Marks
• Provides a comprehensive explanation that clearly links nutrition to livestock health	5
• Provides some explanation that clearly links nutrition to livestock health	4
• Provides some explanation that links nutrition to livestock health	3
• States why nutrition is important	2
• Lists element/elements of nutrition	1

Sample answer:

Livestock require different levels of nutrition at different life stages. For example: pregnant and lactating females need a higher level of nutrition. A pregnant female has additional nutritional requirements to maintain her own body processes as well as that of her offspring.

Livestock require supplementary feeding in drought conditions to minimise stress and ensure adequate growth and development.

Diets deficient in nutrients can result in diseases eg copper deficiency.

Question 22 (c)

Criteria	Marks
<ul style="list-style-type: none"> Explains concisely the importance of hygiene, biosecurity and safe work practices using industry terminology accurately and appropriately 	7–8
<ul style="list-style-type: none"> Describes the importance of hygiene, biosecurity and safe work practices using industry terminology appropriately 	5–6
<ul style="list-style-type: none"> Outlines the importance of hygiene and/or biosecurity and/or safe work practices using industry terminology 	3–4
<ul style="list-style-type: none"> States the importance of hygiene or biosecurity or safe work practices 	2
<ul style="list-style-type: none"> Lists an aspect of hygiene or biosecurity or safe work practices 	1

Answers could include:

Hygiene is important because it:

- prevents the spread of disease to operator and livestock
- protects the operator from coming in contact with biological material which may cause illness (zoonotic diseases)
- minimises infection and the incidence of contamination
- reduces the need for veterinary intervention and other treatments
- enhances product quality by meeting market specifications.

Biosecurity is important because it:

- prevents the introduction of exotic pests and diseases
- protects primary industries and Australian markets
- prevents infestation and spread of disease
- ensures Australia's reputation as a source of safe foods/products
- minimises disease introduction to humans, livestock and the environment
- meets legislative requirements.

Safe work practices are important because they:

- protect handlers and livestock
- minimise risk of injury
- provide a low stress environment for stock
- reduce loss of productivity due to injuries to handlers and livestock
- increase profit margin
- meet legislative requirements
- comply with quality assurance standards.

Question 23 (a)

Criteria	Marks
<ul style="list-style-type: none"> • Outlines the purpose of legislation in relation to the treatment and control of plant pests, diseases and disorders 	2
<ul style="list-style-type: none"> • States the purpose of legislation 	1

Sample answer:

Legislation mandates correct procedures for controlling plant pests, diseases and disorders and aims to protect the environment and operators.

Question 23 (b)

Criteria	Marks
<ul style="list-style-type: none"> • Identifies five parts of a plant and describes the key functions of each 	5
<ul style="list-style-type: none"> • Identifies four parts of a plant and describes the key functions of each <p>OR</p> <ul style="list-style-type: none"> • Identifies a range of parts of a plant and provides a detailed description of each 	4
<ul style="list-style-type: none"> • Identifies some parts of a plant and describes the key functions of each 	3
<ul style="list-style-type: none"> • Lists some parts of a plant and provides some functions 	2
<ul style="list-style-type: none"> • Lists some parts of a plant 	1

Sample answer:

Parts include:

- stem – transport of water, nutrients and minerals
- roots – anchor the plant and allow for movement of water into the plant
- leaves – photosynthesis and respiration, exchange of gases
- flowers – reproductive structures of the plant, act to attract bird and insect pollinators
- fruit – vessel for seeds.

Question 23 (c)

Criteria	Marks
<ul style="list-style-type: none"> Explains concisely the importance of biosecurity, safe work practices and record keeping using industry terminology accurately and appropriately 	7–8
<ul style="list-style-type: none"> Describes the importance of biosecurity, safe work practices and record keeping using industry terminology appropriately 	5–6
<ul style="list-style-type: none"> Outlines the importance of biosecurity and/or safe work practices and/or record keeping using industry terminology 	3–4
<ul style="list-style-type: none"> States the importance of biosecurity or safe work practices or record keeping 	2
<ul style="list-style-type: none"> Lists an aspect of biosecurity or safe work practices or record keeping 	1

Answers could include:

Biosecurity is important because it:

- prevents the introduction of exotic pests and diseases
- protects primary industries and Australian markets
- prevents infestation and spread of disease
- ensures Australia’s reputation as a source of safe foods/products
- minimises disease introduction to humans, plants and the environment

Safe work practices are important because they:

- protect workers
- minimise risk of injury
- reduce loss of productivity due to injuries to workers
- increase profit margin
- meet legislative requirements
- prevent contamination of plant communities
- comply with quality assurance standards.

Record keeping is important because it:

- provides history of treatment records
- meets legislative requirements
- protects workplace against potential litigation
- assists in tracking managerial and treatment activities
- provides documentation for compliance with withholding periods
- facilitates dissemination of information to fellow workers and neighbours
- tracks stock and chemical usage.

2018 HSC Primary Industries Mapping Grid

Section I

Question	Marks	HSC content – focus area
1	1	Safety — incidents, accidents, emergencies – page 35
2	1	Weather — monitoring conditions – page 41
3	1	Working in the industry — working with others – page 47
4	1	Chemicals — work health and safety – page 29
5	1	Sustainability — environment, environmentally sustainable work practices – pages 37 and 39
6	1	Safety — WHS compliance – page 33
7	1	Chemicals — work health and safety – page 28
8	1	Weather — monitoring conditions – page 41
9	1	Weather — monitoring conditions – page 41
10	1	Safety — incidents, accidents and emergencies – page 35
11	1	Working in the industry — anti-discrimination – page 48
12	1	Sustainability — environmental compliance – page 38
13	1	Safety — WHS consultation and participation – page 33
14	1	Sustainability — environmentally sustainable work practices – page 37
15	1	Safety — risk management – page 34

Section II

Question	Marks	HSC content – focus area
16 (a)	2	Working in the industry — cultural diversity – pages 47–48
16 (b)	3	Working in the industry — cultural diversity – pages 47–48
16 (c)	3	Working in the industry — anti-discrimination – page 48
17	6	Working in the industry — technology – page 47
18 (a)	2	Sustainability — environment – page 37
18 (b)	2	Sustainability — environment – page 37
18 (c)	3	Sustainability — environment – page 37
19 (a)	3	Safety — incidents, accidents and emergencies – page 35
19 (b)	4	Safety — safe work procedures and practices – page 34; incidents, accidents and emergencies – page 35
20 (a)	1	Chemicals — working with chemicals – page 29
20 (b)	2	Chemicals — working with chemicals – page 29
20 (c)	4	Chemicals — working with chemicals – page 29

Section III

Question	Marks	HSC content – focus area
21	15	Weather — weather and climate: monitoring conditions – page 41; managing conditions – page 42

Section IV

Question	Marks	HSC content – focus area
22 (a)	2	Livestock health and welfare — working with livestock – page 50
22 (b)	5	Livestock health and welfare — nutrition – page 51
22 (c)	8	Livestock health and welfare — working with livestock – page 50
23 (a)	2	Plant pests, diseases and disorders — management – page 56
23 (b)	5	Plant pests, diseases and disorders — range of plants – page 55
23 (c)	8	Plant pests, diseases and disorders — management – page 56; recording and reporting – page 56