

## 2021 HSC Primary Industries Marking Guidelines

### Section I

#### Multiple-choice Answer Key

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

## Section II

### Question 16 (a)

| Criteria   | Marks |
|--|-------|
| <ul style="list-style-type: none"> <li>Identifies TWO pieces of suitable protective work clothing</li> </ul> | 1     |

**Answers could include:**

- Long-sleeve shirt
- Wide-brimmed hat
- High-vis shirt
- Enclosed shoes
- Long pants
- Sunglasses.

### Question 16 (b)

| Criteria  | Marks |
|---|-------|
| <ul style="list-style-type: none"> <li>Outlines the personal attributes that an employer would look for in a person applying for a position as a farmhand</li> </ul>                    | 2     |
| <ul style="list-style-type: none"> <li>Provides some information about personal attributes that an employer would look for in a person applying for a position as a farmhand</li> </ul> | 1     |

**Sample answer:**

Some personal attributes that an employer would look for are showing initiative and being flexible. Being flexible means that a worker can change/reschedule tasks according to situations that may arise.

### Question 16 (c)

| Criteria   | Marks |
|--|-------|
| <ul style="list-style-type: none"> <li>Explains the impact a current or emerging technology has had on daily work practices in a primary industries sector</li> </ul>  | 4     |
| <ul style="list-style-type: none"> <li>Describes a current or emerging technology that has had an impact on daily work practices in a primary industries sector</li> </ul>   | 3     |
| <ul style="list-style-type: none"> <li>Outlines a current or emerging technology that has had an impact on daily work practices in a primary industries sector</li> </ul>  | 2     |
| <ul style="list-style-type: none"> <li>Identifies a current or emerging technology in a primary industries sector</li> </ul> OR <ul style="list-style-type: none"> <li>Provides some relevant information</li> </ul> | 1     |

**Sample answer:**

Automation is present in the everyday life of many high tech primary industries sectors and affects all sorts of traditional manual labour activities. For example, in the meat industry, automated machinery and robots have increased slaughtering capacity and reduced labour requirements. Automation has made production methods more dynamic and cost effective, resulting in time savings.

### Question 17 (a)

| Criteria   | Marks |
|--|-------|
| <ul style="list-style-type: none"> <li>Outlines the effects the forecast weather conditions could have on plants OR animals</li> </ul> | 2     |
| <ul style="list-style-type: none"> <li>Identifies an effect of the forecast weather conditions on plants OR animals</li> </ul>         | 1     |

**Sample answer:**

The strong winds can blow over the crop, making it difficult to harvest. The heavy rains can cause flooding which will waterlog the crop and make it difficult to harvest.

### Question 17 (b)

| Criteria  | Marks |
|---|-------|
| <ul style="list-style-type: none"> <li>Describes actions a farmer could take to minimise the immediate effects of the weather forecast</li> </ul> | 3     |
| <ul style="list-style-type: none"> <li>Outlines actions a farmer could take to minimise the immediate effects of the weather forecast</li> </ul>  | 2     |
| <ul style="list-style-type: none"> <li>Outlines an action a farmer could take to minimise the effect(s) of the weather forecast</li> </ul>        | 1     |

**Sample answer:**

Move livestock to a shed to protect them from the wet weather particularly those with young offspring. The stock can also be moved to higher ground away from the rising floodwaters. Ensure loose items are tied down or removed. Evacuate employees if required.

### Question 17 (c)

| Criteria   | Marks |
|--|-------|
| <ul style="list-style-type: none"> <li>Proposes a detailed long-term plan for minimising the impact of future extreme weather events</li> </ul>        | 4     |
| <ul style="list-style-type: none"> <li>Proposes a limited long-term plan for minimising the impact of future extreme weather events</li> </ul>         | 3     |
| <ul style="list-style-type: none"> <li>Provides limited information about a plan for minimising the impact of future extreme weather events</li> </ul> | 2     |
| <ul style="list-style-type: none"> <li>Provides some relevant information about a plan</li> </ul>  | 1     |

**Sample answer:**

There should be an emergency evacuation plan developed to ensure the livestock and people are able to move efficiently to safer areas. All people in the workplace must be familiar with the procedures that need to be taken to protect livestock and people.

To shelter and protect livestock, windbreaks and shelterbelts can be established by planting trees along boundaries.

Farming enterprises may need to be located on areas which are not flood prone; in some cases sheds can be relocated and built on higher ground. Access route out of the property should be above flood levels to allow for safe movement of livestock and people.

**Answers could include:**

Responses involving plants.

### Question 18 (a)

| Criteria   | Marks |
|--|-------|
| <ul style="list-style-type: none"> <li>Calculates the correct amount required, indicating units and showing all working</li> </ul> | 2     |
| <ul style="list-style-type: none"> <li>Provides the correct answer with no units or working</li> </ul> OR                          | 1     |
| <ul style="list-style-type: none"> <li>Shows some correct working and correct units</li> </ul>                                     |       |

**Sample answer:**

(Group A: 45 kg  $\rightarrow$  9 mL  $\times$  60 = 540 mL) + (Group B: 95 kg  $\rightarrow$  19 mL  $\times$  40 = 760 mL)  
 Total = 1300 mL

### Question 18 (b)

| Criteria   | Marks |
|--|-------|
| • Outlines a procedure for cleaning and disposing of empty chemical containers         | 3     |
| • Outlines part of a procedure for cleaning and disposing of empty chemical containers | 2     |
| • Identifies a step for cleaning or disposing of empty chemical containers             | 1     |

**Sample answer:**

- Triple rinse the empty chemical container
- Dig a hole 50 cm deep and bury the container.

### Question 18 (c)

| Criteria  | Marks |
|---|-------|
| • Explains THREE pieces of information that could be recorded in a chemical inventory   | 5     |
| • Explains TWO pieces of information that could be recorded in a chemical inventory<br>OR<br>• Describes THREE pieces of information that could be recorded in a chemical inventory   | 4     |
| • Explains ONE piece of information that could be recorded in a chemical inventory<br>OR<br>• Outlines THREE pieces of information that could be recorded in a chemical inventory<br>OR<br>• Describes TWO pieces of information that could be recorded in a chemical inventory | 3     |
| • Describes ONE piece of information that could be recorded in a chemical inventory<br>OR<br>• Outlines TWO pieces of information that could be recorded in a chemical inventory  | 2     |
| • Identifies a piece of information that could be recorded in a chemical inventory  | 1     |

**Sample answer:**

A chemical inventory is a WHS requirement. If an incident occurred, an inspector would ask to see the inventory. Information that needs to be recorded:

- Chemical manufacturer name and contact information – so that the chemical can be traced back to the manufacturer if there are any issues with the product
- Where chemicals are stored – this is a legal requirement, to ensure that chemicals are secured away from unauthorised use. In case of an emergency, emergency services know where to find the chemicals
- Date used – this is a legal requirement. It helps to trace when the chemical has been used, to follow up the effectiveness of the treatment.

### Question 19 (a)

| Criteria  | Marks |
|---|-------|
| • Outlines consequences of failure to comply with environmental legislation   | 3     |
| • Identifies consequences of failure to comply with environmental legislation | 2     |
| • Provides some relevant information  | 1     |

**Sample answer:**

Failure to comply with environmental legislation may result in a farmer being forced to clean up an environmental issue such as an oil spill into a waterway. The farmer may also be forced to pay clean-up costs and a penalty notice issued if the breach continues.

### Question 19 (b)

| Criteria  | Marks |
|---|-------|
| • Provides comprehensive reasons for a range of strategies that could be used to reduce potential environmental impacts of the primary industries shown | 6     |
| • Provides detailed reasons for strategies that could be used to reduce potential environmental impacts of the primary industries shown                 | 5     |
| • Demonstrates a sound understanding of some strategies that could be used to reduce potential environmental impacts of the primary industries shown    | 4     |
| • Outlines reasons for strategies that could be used to reduce potential environment impacts of primary industries                                      | 3     |
| • Identifies strategies and/or environmental impacts of some primary industries   | 2     |
| • Identifies a strategy or an environmental impact of primary industries  | 1     |

**Sample answer:**

**Soil erosion:** Do not remove all the pine trees on the steep hillsides, do selective logging to hold soil intact. For each tree removed, plant a new seedling and mulch base areas to minimise possible soil erosion.

**Animal effluent:** Capture animal effluent in lined holding ponds, dilute with water and spray back on areas such as salt-affected areas. Scrape intensive cattle feedlot yards, put solids back into the ground and plough into areas of intense vegetable production. This reduces the amount of nutrients that enter the waterways, leading to possible algal blooms.

**Chemical usage:** Only spray when necessary, and use IPM strategies to minimise chemical usage. Spray on days when breeze is blowing away from the river. Use biological controls if applicable. This reduces the amount of chemical hitting non-target species.

## Section III

### Question 20

| Criteria  | Marks |
|---|-------|
| <ul style="list-style-type: none"> <li>• Demonstrates comprehensive knowledge and understanding of strategies that can be implemented to reduce workplace accidents and/or injuries in a primary industries workplace</li> <li>• Clearly links these strategies to the reduction in workplace accidents and injuries</li> <li>• Communicates in a cohesive and logical manner</li> <li>• Communicates ideas and information using relevant industry terminology and workplace examples</li> </ul> | 13–15 |
| <ul style="list-style-type: none"> <li>• Demonstrates detailed knowledge and understanding of strategies that can be implemented to reduce workplace accidents and/or injuries in a primary industries workplace</li> <li>• Links these strategies to the reduction in a workplace accident and/or injury</li> <li>• Communicates in a clear and orderly manner</li> <li>• Communicates ideas and information using some relevant industry terminology and workplace examples</li> </ul>          | 10–12 |
| <ul style="list-style-type: none"> <li>• Demonstrates a broad knowledge and understanding of strategies that can be implemented to reduce a workplace accident or injury</li> <li>• Describes the effects of these strategies on the reduction in a workplace accident or injury</li> <li>• Uses some appropriate industry terminology</li> </ul>   | 7–9   |
| <ul style="list-style-type: none"> <li>• Demonstrates a basic knowledge of strategies that can be implemented to reduce a workplace accident or injury</li> <li>• Outlines some effects of these strategies on the reduction in a workplace accident or injury</li> <li>• Uses some industry terminology</li> </ul>   | 4–6   |
| <ul style="list-style-type: none"> <li>• Demonstrates an elementary knowledge of a strategy that can be implemented to reduce a workplace accident or injury</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Provides some relevant information</li> </ul>  | 1–3   |

**Answers could include:**

Identify potential risks within the workplace, using WHS consultants to help identify safety issues.

Preparation of the workplace:

- Workplaces are required to provide first aid equipment including a defibrillator device and ensure all employees have access
- Employees have up-to-date training in first aid
- Training of all employees about procedure regarding locations of first aid equipment. This is a legal requirement.

Annual review of the procedures and processes involved:

- Employees selected for the various positions required eg first aid officer, chief warden
- Regular checks of emergency equipment eg fire extinguisher, hose reels
- Review of risk assessments/policies and procedures each year to ensure all control measures are in place
- Implement the hierarchy of controls and know the hazards
- Create a committee or nominate a WHS rep for the workplace that undertakes regular WHS checks
- Incident register with a follow-up procedure.

## Section IV

### Question 21 (a)

| Criteria   | Marks |
|--|-------|
| <ul style="list-style-type: none"> <li>Describes the purpose of codes of practice in a primary industries workplace</li> </ul> | 3     |
| <ul style="list-style-type: none"> <li>Outlines the purpose of codes of practice in a primary industries workplace</li> </ul>  | 2     |
| <ul style="list-style-type: none"> <li>Identifies what is a code of practice</li> </ul>  | 1     |

**Sample answer:**

Codes of practice set clear standards of professional practice and behaviour. The codes are an important part of regulating and improving the quality of care for employees in the workplace.

Codes of practice let employees know what is expected of them in the workplace. They detail safety and standards information on specific workplace tasks to help employees achieve standards under WHS laws.

### Question 21 (b)

| Criteria  | Marks |
|---|-------|
| <ul style="list-style-type: none"> <li>Explains why recording AND reporting are important in dealing with the treatment and control of animal pests and diseases</li> </ul>   | 4     |
| <ul style="list-style-type: none"> <li>Outlines why recording AND reporting are important in dealing with the treatment and control of animal pests and diseases</li> </ul>   | 3     |
| <ul style="list-style-type: none"> <li>Outlines why recording OR reporting is important in the treatment and control of animal pests and diseases</li> </ul>                  | 2     |
| <ul style="list-style-type: none"> <li>Provides relevant information relating to recording and/or reporting the treatment and control of animal pests and diseases</li> </ul> | 1     |

**Sample answer:**

Reporting and recording are a legislative requirement. Records that are to be noted are when and where the treatment was given and by whom. This allows for follow-up of effectiveness of the treatment and traceability. Reporting is essential if it is a notifiable disease. Animals can be quarantined or dealt with according to disease control authorities so that spread is minimal.

**Question 21 (c)**

| Criteria  | Marks |
|---|-------|
| <ul style="list-style-type: none"> <li>Provides detailed reasons for different techniques and methods used to handle livestock</li> </ul> | 7–8   |
| <ul style="list-style-type: none"> <li>Describes reasons for some techniques and methods used to handle livestock</li> </ul>              | 5–6   |
| <ul style="list-style-type: none"> <li>Outlines techniques and/or methods used to handle livestock</li> </ul>                             | 3–4   |
| <ul style="list-style-type: none"> <li>Identifies method(s) and/or technique(s) for handling livestock</li> </ul>                         | 1–2   |

**Answers could include:**

Moving animals using low stress handling techniques to reduce injury to stock and keep them calm during movement/muster.

Understanding animal behaviour in relation to flight zones and where to stand to move animals with minimum stress on the animal.

Moving animals in yards from the same direction each time, for example enter the yards from one direction and exit at the other end, to allow for ease of movement. The animals learn the process which reduces stress.

**Drafting**

- Ensure the use of well-maintained equipment to reduce injuries to animals
- Allow animals to see an avenue for escape to minimise them stopping and making sudden movements
- Reduce the number of handlers in the yards
- Draft and separate big and small animals to prevent bullying of animals in the yards. This reduces injury to animals
- Avoid leaving single animals in yards/pens to reduce the stress on the animal.

Restraining methods using the relevant and correct equipment for the type and size of the animal such as suitable race, head bale or cradle. Handlers are well trained to ensure animal care and wellbeing to reduce injury to animals and handlers.

Handlers and workers are trained to be observant, confident and competent to ensure they understand animal behaviour to minimise stress and injury to animals.

### Question 22 (a)

| Criteria   | Marks |
|--|-------|
| <ul style="list-style-type: none"> <li>Describes the purpose of codes of practice in a primary industries workplace</li> </ul> | 3     |
| <ul style="list-style-type: none"> <li>Outlines the purpose of codes of practice in a primary industries workplace</li> </ul>  | 2     |
| <ul style="list-style-type: none"> <li>Provides some relevant information</li> </ul>   | 1     |

**Sample answer:**

Codes of practice set clear standards of professional practice and behaviour. The codes are an important part of regulating and improving the quality of care for employees in the workplace.

Codes of practice let employees know what is expected of them in the workplace. They detail safety and standards information on specific workplace tasks to help employees achieve standards under WHS laws.

### Question 22 (b)

| Criteria  | Marks |
|---|-------|
| <ul style="list-style-type: none"> <li>Explains why recording AND reporting are important in dealing with the treatment and control of plant pests, diseases and disorders</li> </ul>   | 4     |
| <ul style="list-style-type: none"> <li>Outlines why recording AND reporting are important in dealing with the treatment and control of plant pests, diseases and disorders</li> </ul>   | 3     |
| <ul style="list-style-type: none"> <li>Outlines why recording OR reporting is important in the treatment and control of plant pests, diseases and disorders</li> </ul>                  | 2     |
| <ul style="list-style-type: none"> <li>Provides relevant information relating to recording and/or reporting the treatment and control of plant pests, diseases and disorders</li> </ul> | 1     |

**Sample answer:**

Reporting and recording are a legislative requirement. Records that are to be noted are when and where the treatment was given and by whom. This allows for follow-up of effectiveness of treatment and traceability. Reporting is essential if it is a notifiable disease. Plants infected need to be isolated and quarantined and dealt with accordingly. Authorities may need to be notified.

## Question 22 (c)

| Criteria  | Marks |
|---|-------|
| <ul style="list-style-type: none"> <li>Provides detailed reasons for different methods used for treating and controlling plant pests, diseases and disorders</li> </ul> | 7–8   |
| <ul style="list-style-type: none"> <li>Describes reasons for some methods used for treating and controlling plant pests, diseases and disorders</li> </ul>              | 5–6   |
| <ul style="list-style-type: none"> <li>Outlines methods for treating and/or controlling plant pests and/or diseases and/or disorders</li> </ul>                         | 3–4   |
| <ul style="list-style-type: none"> <li>Identifies method(s) for treating and/or controlling plant pests and/or diseases and/or disorders</li> </ul>                     | 1–2   |

### **Answers could include:**

#### Biological

- Environmentally friendly predator will control the pest(s) and keep the population down below the disease/pest level (threshold)
- Predator will eventually die out once its food source has been diminished
- Costly process as biological agents need to be brought into the environment in sufficient numbers.

#### Chemical

- Possibly the most effective control method in regards to reducing the incidence of pest/disease
- Can cause environmental damage to non-target species if not used correctly
- Can be costly.

#### Cultural

- Management strategies are preferred over other methods as they can be used to prevent pests/diseases from happening. For example adjusting planting dates to minimise pest infestation
- Crop rotations can be implemented to break disease/pest cycles
- Adding nutrients to treat nutrient deficiency, for example NPK fertiliser.

#### Mechanical

- Use strategies that can be used in conjunction with other methods such as slashing before flowering/seed set
- Removing weeds by hand
- Changing the temperature on the greenhouse to discourage an increase in the pest population
- Ploughing can destroy soil structure and cause erosion and loss of topsoil
- Manual control methods are time consuming and may require extra labour
- Slashing/weeding must be done prior to seed setting.

An integrated approach is the most suitable way as it combines a variety of methods and does not rely solely on chemicals.

# 2021 HSC Primary Industries Mapping Grid

## Section I

| Question | Marks | HSC content – focus area  |
|----------|-------|---|
| 1        | 1     | Weather — monitoring conditions – p45   |
| 2        | 1     | Working in the industry — working with others – p51/52                                  |
| 3        | 1     | Sustainability — water resource management – p40  |
| 4        | 1     | Weather — elements of weather and climate p45   |
| 5        | 1     | Safety – risk management – p36  |
| 6        | 1     | Sustainability — resources – p42  |
| 7        | 1     | Working in the industry — nature of industry – p49                                      |
| 8        | 1     | Sustainability — environment hazard identification and risk control, reporting – p40/41 |
| 9        | 1     | Working in the industry — work practices – page 51                                      |
| 10       | 1     | Sustainability — environment – p40  |
| 11       | 1     | Working in the industry — primary industries worker – p50                               |
| 12       | 1     | Working in the industry — employment – p49  |
| 13       | 1     | Chemicals — integrated pest resistance management – p32                                 |
| 14       | 1     | Working in the industry — employment – p49  |
| 15       | 1     | Weather — weather and climate – p45   |

## Section II

| Question | Marks | HSC content – focus area  |
|----------|-------|---|
| 16 (a)   | 1     | Working in the industry — primary industries worker – p50   |
| 16 (b)   | 2     | Working in the industry — primary industries worker – p50   |
| 16 (c)   | 4     | Working in the industry — technology – p51  |
| 17 (a)   | 2     | Weather — managing conditions – p46   |
| 17 (b)   | 3     | Weather — managing conditions – p46   |
| 17 (c)   | 4     | Weather — managing conditions – p46   |
| 18 (a)   | 2     | Chemicals — working with chemicals – p31  |
| 18 (b)   | 3     | Chemicals — working with chemicals – p32  |
| 18 (c)   | 5     | Chemicals — working with chemicals – p32  |
| 19 (a)   | 3     | Sustainability — environmental compliance – p41   |
| 19 (b)   | 6     | Sustainability — environmentally sustainable work practices – p42<br>Sustainability — environment – page 40 |

**Section III**

| <b>Question</b> | <b>Marks</b> | <b>HSC content – focus area</b>                     |
|-----------------|--------------|---|
| 20              | 15           | Safety — incidents, accidents and emergencies – p37 |

**Section IV**

| <b>Question</b> | <b>Marks</b> | <b>HSC content – focus area</b>                                     |
|-----------------|--------------|---|
| 21 (a)          | 3            | Livestock health and welfare — working with livestock – p55         |
| 21 (b)          | 4            | Livestock health and welfare — working with livestock – p56         |
| 21 (c)          | 8            | Livestock health and welfare — handling – p56                       |
| 22 (a)          | 3            | Plant pests, diseases and disorders — management – p61              |
| 22 (b)          | 4            | Plant pests, diseases and disorders — recording and reporting – p61 |
| 22 (c)          | 8            | Plant pests, diseases and disorders — management – p60              |