

2016 HSC Primary Industries Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 16 (a)

Criteria	Marks
• Explains the meaning of the term integrated pest management (IPM)	1

Sample answer:

Integrated pest management is the use of a range of control methods for a pest problem.

Question 16 (b)

Criteria	Marks
• Outlines THREE valid strategies that could be used in an IPM program	3
• Outlines TWO valid strategies that could be used in an IPM program	2
• Outlines a piece of relevant information on an IPM program	1

Sample answer:

- Chemical control – use of drench to control intestinal worms
- Cultural control – use of paddock rotation to reduce the spread of pests
- Biological control – use of a predator to control the pest, eg predatory mites to control codling moth.

Question 17 (a)

Criteria	Marks
• Correctly identifies the employment type	1

Sample answer:

The type of employment is casual employment.

Question 17 (b)

Criteria	Marks
• Gives detailed description of principles of equal employment opportunity (EEO)	3
• Gives brief description of principles of equal employment opportunity (EEO)	2
• Lists some of the features of equal employment opportunity (EEO)	1

Sample answer:

Equal employment opportunity (EEO) means that all participants in the workforce are treated with fairness and respect and are not subjected to unlawful discrimination and harassment. You cannot be discriminated against due to age, carer responsibilities, disability, sexuality, marital/domestic status, sex, pregnancy and transgender status.

Question 17 (c)

Criteria	Marks
• Evaluates the advertisement in terms of EEO principles	4
• Discusses some of the EEO issues in the advertisement	3
• Lists some EEO issues with the advertisement	2
• Provides a piece of relevant information on EEO in the job advertisement	1

Sample answer:

There are several aspects of the advertisement that do not meet EEO principles. For example, the ad states that an applicant must have good English skills, must be physically fit, able to work at heights and work long hours. These criteria would discriminate against those of non-English speaking background, those with compromised levels of fitness, people with physical disabilities and people with young children who need care. In addition the ad asks for young, single applicants. This discriminates against older and/or married/people in a relationship who may wish to be considered for this position.

A positive aspect of the ad is that it does not discriminate on the basis of race, gender or sexual preference.

For these reasons the ad does not effectively meet the principles of EEO.

Question 18 (a)

Criteria	Marks
• Correctly identifies the difference between weather and climate	2
• Correctly identifies weather or climate	1

Sample answer:

Weather is the term describing atmospheric conditions that occur in an area on any day. It represents a short-term view of atmospheric conditions such as temperature, rain, wind etc. Climate is a long-term view of weather patterns over many years. For example it documents the historical data for temperature and precipitation in an area.

Question 18 (b)

Criteria	Marks
• Provides a well-reasoned comparison between television and the internet as sources of weather information for a primary industries workplace	4
• Provides some comparison between television and the internet as sources of weather information for a primary industries workplace	3
• Provides relevant points about television or the internet as sources of weather information for a primary industries workplace	2
• Provides a relevant fact about television or the internet as a source of weather information	1

Sample answer:

Television is graphically vivid. A presenter interprets the weather map. Television gives a broad coverage of the weather of a state or locality. It is not portable and thus not accessible to a worker in the field. It gives a weather forecast in general terms. If farmers have pay TV they can access the weather channel for a specific area.

The internet provides a wide range of easily accessible sources of weather data for the user's own location on a portable device. The information sources often give longer-term forecasts. Access to the internet in the field may be limited if there is poor service.

Answers could include:

TV – viewers are dependent on the network's presentation for the weather report.

Internet – access to data from industry specific weather stations is becoming available.

Question 19 (a)

Criteria	Marks
• Clearly indicates the key stages in risk control	3
• Indicates some of the stages in risk control	2
• Provides a piece of information relevant to risk control	1

Sample answer:

The key stages in risk control are often called the hierarchy of risk control. The first stage is the elimination of the risk. If this is not possible then minimisation of the risk can be achieved through substitution. Following this an engineering control may be used to modify the item to make it safer. This may be followed by administrative controls where the supervisor may direct an action to be followed that will reduce the potential for risk. The final method of risk control is the use of PPE. This reduces the exposure of the operator to the risk but does not eliminate it.

Question 19 (b)

Criteria	Marks
• Lists TWO relevant hazards for workers with associated risks and control measures appropriate to each hazard and risk	6
• Lists TWO relevant hazards for workers with associated risks and/or control measures appropriate to at least one of the risks	4–5
• Lists ONE relevant hazard for workers with an associated risk or control measure appropriate to the risk	2–3
• Provides some relevant information on hazards, risks, or risk control	1

Sample answer:

A hazard is anything in the workplace that has the potential to harm people. A risk arises when a hazard has the potential to cause harm.

<i>Potential hazard</i>	<i>Potential risk</i>	<i>Risk control</i>
Chemicals	Spillage	<ul style="list-style-type: none"> • use of appropriate personal protective equipment (PPE) • bunding • safe storage • safe handling • read Material Safety Data Sheets (MSDS) before use • standard operating procedures (SOP) for use and storage
Operate machinery	Injury	<ul style="list-style-type: none"> • follow manufacturer's instructions • appropriate maintenance of machinery • SOPs for machinery operation and storage • appropriate worker training

Question 20 (a)

Criteria	Marks
• Lists TWO pieces of appropriate PPE and relevant reasons for their use	2
• Lists ONE piece of appropriate PPE and a relevant reason OR lists TWO and gives ONE reason	1

Sample answer:

<i>Appropriate PPE</i>	<i>Reason for use</i>
1. Half face respirator mask	Prevents inhalation of chemical spray
2. Goggles	Protects eyes from chemical spray

Answers could include:

- Boots – protect feet from spillage
- Elbow length PVC gloves – prevent chemical absorption
- Overalls – protect skin and clothing from chemical spills
- Hat – reduces risk of sun exposure and protects head from chemical splash
- Paper Respirator – prevents inhalation but not as effective as half face respirator
- Paper Mask – prevents inhalation but not as effective as half face respirator.

Question 20 (b)

Criteria	Marks
• Provides TWO potential impacts and valid strategies to reduce the impact on the property, habitat and waterway	6
• Provides TWO potential impacts and one valid strategy to reduce the impact on the property, habitat and waterway	4–5
• Provides ONE potential impact and a valid strategy to reduce the impact on the property, habitat and waterway OR TWO potential impacts and no strategies OR TWO impacts and ONE weak strategy	2–3
• Provides a piece of relevant information	1

Sample answer:

<i>Potential impact of chemical use</i>	<i>Strategies to reduce the impact</i>
1. Spray drift – killing non-target organisms, damage neighbouring crops	<ul style="list-style-type: none"> • Check weather conditions to ensure not too windy on day of spraying • Check direction of wind to ensure not blowing towards areas of risk • Increase droplet size to reduce the potential for spray drift • Ensure nozzles are clean to allow for even flow and minimise potential for drift
2. Run-off into waterway	<ul style="list-style-type: none"> • Do not spray when rain is forecast – this will reduce risk of run-off • Do not spray near waterway – to reduce potential for run-off and impact on aquatic life • Read MSDS before spraying – to minimise adverse effects on aquatic life

Answers could include:

- Impact on wildlife and habitat – do not spray in sensitive areas, be aware of effect of chemical on non-target species
- Impact on neighbouring property – check wind direction before spraying, do not spray too close to property.

Section III

Question 21

Criteria	Marks
<ul style="list-style-type: none"> Provides a comprehensive discussion of managing the expansion of the workforce to maintain quality assurance and a safe and productive work environment 	13–15
<ul style="list-style-type: none"> Provides a detailed discussion of managing the expansion of the workforce to maintain quality assurance and a safe and productive work environment 	10–12
<ul style="list-style-type: none"> Provides a general discussion of managing the expansion of the workforce 	7–9
<ul style="list-style-type: none"> Provides a limited discussion of managing the expansion of the workforce 	4–6
<ul style="list-style-type: none"> Identifies a minimal range of strategies for managing the expansion of the workforce 	1–3

Answers could include:

Impacts on work practices from expansion of workplace employee numbers:

Safe and productive work environment

- formation of teams in the workplace
- work sequencing needs to include/incorporate more workers
- importance of time management – need to consider other workers in daily routines
- implement effective lines of communication among workers and with supervisor
- develop collegial work relationships
- development of workplace protocols and procedures
- coordination of work flow and practices across all areas of the business
- establishment of a workplace Work Health and Safety (WHS) committee
- need to be aware of WHS rights and responsibilities of others at work site
- provision of training for new workers
- increase awareness of responsibilities for reporting of WHS
- ensure all new workers receive workplace induction
- train new workers in relation to environmental compliance and responsibilities
- develop workplace/enterprise policy and procedures for environmentally sustainable work practices.

Quality Assurance:

- train new workers
- ensure all new workers receive workplace induction
- provide clear and achievable role statements for each employee
- provide training in quality systems and implementation of continuous improvement guidelines
- monitor and review targets
- ensure all employees are aware of reporting roles and responsibilities.

Section IV

Question 22 (a)

Criteria	Marks
• Correctly names TWO diseases, disorders or parasites for the animal specified	2
• Correctly names ONE disease, disorder or parasite for the animal specified	1

Sample answer:

Animal: Cow

- Two diseases, disorders or parasites of a cow are mastitis and roundworm.

Answers could include:

- Pink eye
- Bloat
- Prolapse
- Ticks
- Lice
- Tetanus.

Question 22 (b)

Criteria	Marks
• Correctly describes the signs and symptoms of the two named diseases, disorders or parasites, demonstrating extensive understanding of livestock health	4
• Correctly describes some signs and symptoms of the two named diseases, disorders or parasites demonstrating an understanding of livestock health	3
• Correctly describes the signs and symptoms of one named disease, disorder or parasite OR describes one sign and symptom of two diseases, disorders or parasites	2
• Provides a piece of relevant information	1

Sample answer:

The symptoms of mastitis include swelling or inflammation of the udder, the milk becomes lumpy or cheesy in texture, there is hardening around the teats and the udder becomes hot to touch.

The symptoms of roundworm include loss of appetite, loss of weight and failure to gain weight as expected (or a failure to thrive).

Question 22 (c)

Criteria	Marks
<ul style="list-style-type: none"> Provides an extensive description of the steps a primary industries worker would follow to prepare for, treat and record treatment details for ONE of the named diseases, disorders or parasites 	8–9
<ul style="list-style-type: none"> Provides an adequate description of the steps a primary industries worker would follow to prepare for, treat, record treatment details for ONE of the diseases, disorders or parasites 	6–7
<ul style="list-style-type: none"> Provides a basic description of some of the steps a primary industries worker would follow to prepare for, treat and record treatment details for ONE of the diseases, disorders or parasites 	4–5
<ul style="list-style-type: none"> Provides an elementary description of some of the steps a primary industries worker would follow to prepare for, treat and record treatment for ONE of the diseases, disorders or parasites 	2–3
<ul style="list-style-type: none"> Provides a piece of relevant information 	1

Answers could include:

Mastitis

Prepare for treatment

- identify what quarter of udder is infected – milk sample or observation at milking
- gather equipment for treatment – gloves, antibiotic, equipment to restrain the animal
- isolate the animal
- separate equipment to milk infected animal – keep milk separate and not put in with milk for human consumption
- seek veterinary advice.

Treat

- isolate infected animal from herd
- restrain the infected animal
- apply topical cream to infected quarter and teat
- continue to milk animal separately
- keep animal separate until clear of infection.

Record/report

- date of treatment
- identification of animal
- name of treatment chemical
- name of person who administered the chemical
- date for subsequent treatments and withholding/exclusion period
- amount of chemical used
- report to supervisor.

Justification

- ensure infection not passed on to other animals and rest of milk
- veterinary advice necessary to ensure correct diagnosis and treatment
- ensure correct treatment administered
- need to consider animal welfare and correct handling in treatment
- records needed if selling animal through the National Livestock Identification System (NLIS)
- records needed to ensure correct withholding/exclusion periods.

Question 23 (a)

Criteria	Marks
• Correctly names TWO plant pests, diseases or disorders for the specified plant type	2
• Correctly names ONE disease, disorder or parasite for the specified plant type	1

Sample answer:

Plant type: Apples

Two pests of apples are codling moth and fruit fly.

Answers could include:

- Powdery mildew
- Dimpling bug
- Light brown apple moth
- Apple scab
- Black spot
- Rust
- Borers
- Aphids.

Question 23 (b)

Criteria	Marks
<ul style="list-style-type: none"> • Correctly describes the signs and symptoms of the two named plant pests, diseases or disorders demonstrating extensive understanding of plant pests, diseases or disorders 	4
<ul style="list-style-type: none"> • Correctly describes some signs and symptoms of the two named plant pests, diseases or disorders demonstrating an understanding of plant pests, diseases or disorders 	3
<ul style="list-style-type: none"> • Correctly describes the signs and symptoms of one named plant pest, disease or disorder OR describes one sign and symptom of two plant pests, diseases or disorders 	2
<ul style="list-style-type: none"> • Provides a piece of relevant information 	1

Sample answer:

The symptoms of codling moth are holes in the skin of the apple where the larvae have burrowed into the fruit. There is a syrupy liquid around the edge of the holes made by the larvae.

The symptoms of fruit fly are the presence of puncture wounds in the skin of the fruit. The signs of fruit fly infestation include the presence of adult fruit flies around the fruit and the presence of fly maggots in or on the fruit.

Question 23 (c)

Criteria	Marks
<ul style="list-style-type: none"> Provides an extensive description of steps a primary industries worker would follow to prepare for, treat, record treatment details for ONE of the named plant pests, diseases or disorders 	8–9
<ul style="list-style-type: none"> Provides an adequate description of steps a primary industries worker would follow to prepare for, treat, record treatment details for ONE of the named plant pests, diseases or disorders 	6–7
<ul style="list-style-type: none"> Provides a basic description of some steps a primary industries worker would follow to prepare for, treat and/or record treatment details for ONE of the named plant pests, diseases or disorders 	4–5
<ul style="list-style-type: none"> Provides an elementary description of some steps a primary industries worker would follow to prepare for, and/or treat and/or record treatment details for ONE of the named plant pests, diseases or disorders 	2–3
<ul style="list-style-type: none"> Provides a piece of relevant information 	1

Answers could include:

Codling moth

Prepare for treatment

- correctly identify pest presence
- determine treatment type – chemical, biological or cultural
 - chemical – select appropriate chemical, PPE, equipment
 - cultural – eg mowing between rows – appropriate PPE and equipment
 - biological – correct predatory mites, pheromone traps – appropriate PPE and equipment selected.

Treatment

- chemical – calibrate equipment, determine time of day and weather conditions for treatment, use correctly fitted PPE, correctly mix chemical and spray all trees in orchard
- cultural – operate machinery safely with correctly fitted PPE
- biological – predatory mites released in correct trees and at appropriate height in trees, correct PPE used.

Records/reporting

chemical

- date of treatment
- name of treatment chemical
- name of person who administered the chemical
- date for subsequent treatments and withholding/exclusion period
- amount of chemical used
- report to supervisor.

biological

- date of release
- name of predators released
- location of trees predators released in
- who released predators
- date for subsequent treatments
- report to supervisor.

Justification

- ensure correct treatment administered
- ensure variety of treatments used
- records needed if selling fruit
- records needed to ensure correct withholding/exclusion periods
- assessment of potential environmental impact to determine treatment.