BOARD OF STUDIES
NEW SOUTH WALES

# 2010 HSC Primary Industries
# Sample Answers

This document contains 'sample answers', or, in the case of some questions, 'answers could include'. These are developed by the examination committee for two purposes. The committee does this:

(a) as part of the development of the examination paper to ensure the questions will effectively assess students' knowledge and skills, and

(b) in order to provide some advice to the Supervisor of Marking about the nature and scope of the responses expected of students.

The 'sample answers' or similar advice are not intended to be exemplary or even complete answers or responses. As they are part of the examination committee's 'working document', they may contain typographical errors, omissions, or only some of the possible correct answers.

# Section II

## Question 16 (a)

***Sample answer:***

| | |
|---|---|
| Nozzle 2 | Nozzle worn or damaged OR incorrect T jet used |
| Nozzle 7 | Nozzle partially blocked OR incorrect T jet used |

## Question 16 (b)

***Sample answer:***

- Total output (litres/minute) = 6 litres/minute
- Area of paddock = 2 hectares
- Effective spray width = 5 metres
- Actual ground speed = 10 kilometres per hour

Volume of water required = 6 x 600 x 2/5 x 10
= 7200/50
= 144 litres of water required

## Question 17 (a)

***Sample answer:***

Paddock A = 32 weed plants /square metre
Paddock B = 36 weed plants /square metre
Paddock C = 28 weed plants /square metre

## Question 17 (b)

***Sample answer:***

Correct answer: Paddock A and Paddock B

## Question 17 (c)

***Answers could include:***

- wind speed
- wind direction
- temperature
- drift potential
- humidity
- stage of plant growth
- location of environmentally sensitive areas
- type of plant
- consideration of the following crop or pasture

**Question 17 (d)**

***Sample answer:***

| Control Method | Strengths | Weaknesses |
|---|---|---|
| Physical/mechanical | No chemical use<br>Little or no effect on non target species<br>No spray drift<br>Kills weeds quickly<br>Can be used at any time of the year | Can be costly<br>Causes soil disturbance<br>May not kill some weeds<br>May help distribute weeds<br>Requires safe use of mechanical equipment |
| Chemical | Can target specific weed species<br>Less effort to apply | Requires weeds to be in correct stage of growth<br>Requires suitable weather conditions<br>Risk of damage to non target species<br>Spray drift<br>High cost of purchasing chemicals<br>Not always effective if incorrect concentration/chemical used |
| Biological | Can target specific weeds<br>No use of chemicals<br>Little or no damage to non target species | May be slow to work<br>May not be available for particular species |

**Question 18 (a)**

***Sample answer:***

The process needs to follow the general D.R.A.B.C.D:

- Danger to self, others and casualty
- Response of patient
- Airway
- Breathing
- Compressions
- Defibrillation

Danger: (1) live power from the power tool and light fitting requires switching off the power or pulling the fuse (2) risk of tripping on the ladder requires moving it away or folding it up if it is near the casualty or blocking access to the injured person.

Response: (1) calling out or shaking the person. If they respond then check for other injuries and call 000. If they do not respond then immediately call 000.

Airway: if safe, check that the airway is open by clearing obstructions so that breathing can commence.

Breathing: if breathing, check circulation. If not breathing, give two initial breaths.

Circulation: check for signs of life or heartbeat. If present, check breathing and attend to other injuries. If no pulse is detected, begin 30 compressions at the rate of 100 per minute, continue at a rate of 2 breaths and 30 compressions per minute.

Defibrillator: if no signs of life or absence of heartbeat, use the defibrillator if it is available. This action depends on whether a trained person is available to operate the defibrillator.

**Question 18 (b)**

***Answers could include:***

- Ensure trained/licensed personnel carry out work
- Use power tools that have been tagged and tested
- Ensure climbing equipment is well maintained
- Use correct climbing equipment for the task
- Conduct risk assessment before undertaking any task
- Ensure that there are safe operating procedures for all work tasks, and that they are followed
- Ensure that the relevant supervisor is notified that you are working in that area

**Question 19 (a)**

***Sample answer:***

| | |
|---|---|
| Join broken wires | Pliers, wire strainers, gripples |
| Replace steel posts | Post remover, post driver, hammer |

**Question 19 (b)**

***Sample answer:***

*Occupational Health and Safety Act 2000* (NSW)

**Question 19 (c)**

***Answers could include:***

- Injury from – incorrect lifting, slips, trips or falls, exposure to heat, incorrect use of dangerous equipment, or sharp objects
- Exposure to noise
- Insects/snakes bites etc
- Broken wires causing cuts
- Cuts from wires
- Dehydration

**Question 19 (d)**

***Answers could include:***

| | |
|---|---|
| Prepare for work | • Equipment needed for repairing the fence is identified and collected<br>• Materials required are determined and assembled<br>• PPE for task is collected<br>• A risk assessment of the site and task is undertaken<br>• Equipment selected is checked for damage and replaced where necessary<br>• Material and equipment are transported to the site |
| Carry out repairs | • PPE is used correctly<br>• SOPs are followed<br>• Damaged fence dismantled<br>• Damaged posts are replaced<br>• Broken wires are joined and correctly tensioned<br>• OHS is observed during repair |
| Complete the repair of the fence | • The site is cleared of waste<br>• Waste is disposed of in a safe and environmentally appropriate manner<br>• Tools are cleaned and returned to relevant storage site<br>• The work site is left in a safe condition<br>• Tie off |

# Section III

## Question 20

***Answers could include:***

| *Disaster* | *Safety Impacts* | *Environmental Impacts* |
|---|---|---|
| Storm | Loss of power<br>Damage to infrastructure<br>Injury and loss of life to humans and animals<br>Damage to vehicles | Damage to vegetation<br>Transportation of weeds<br>Pollution of waterways<br>Soil erosion<br>Lightning induced fires<br>Nitrogen fixing by lightning |
| Fire | Loss of power<br>Damage to infrastructure<br>Injury and loss of life to humans and animals<br>Damage to vehicles | Damage to vegetation<br>Pollution of waterways<br>Soil erosion<br>Loss of biodiversity<br>Survival of fire adapted plant species Decreases biomass and affects the natural cycles<br>Air pollution and increase in greenhouse gas emissions |
| Flood | Loss of power<br>Damage to infrastructure<br>Injury and loss of life to humans and animals<br>Damage to vehicles | Damage to vegetation<br>Increased biomass<br>Transportation of weeds<br>Pollution of waterways<br>Soil erosion<br>Positive impact for plant and animal species requiring floods for reproduction |

***Answers to management strategies could include:***

| *Management Strategies* | *Strengths* | *Weaknesses* |
|---|---|---|
| Emergency Response plans for people and stock | Emergency meeting places and plans make it easier to account for people<br>Safe locations for livestock have been identified to make movement easier | If people are not made familiar with the plan or it is not updated then the plan is a waste of time |
| Establish roles and responsibilities for personnel | Reduces confusion | It must be updated as personnel leave |
| Training employees on emergency procedures | Meets OHS requirements and reduces confusion/ saves time | Must be practised to be effective |
| Training employees in first aid | Prompt action can reduce the extent of injury and sustain life | Expensive |
| Set up emergency contacts | Fast link to emergency services when the situation is confused | Must be clearly displayed |
| Set up and maintain emergency equipment like first aid kits and fire trucks/hoses | Quick access to emergency equipment at all times | Must be checked and updated to be effective |
| Select and maintain appropriate PPE for emergency use | Immediate access in an emergency to functioning PPE | Time must be set aside to correctly store and maintain |

| *Management Strategies* | *Strengths* | *Weaknesses* |
|---|---|---|
| Make the infrastructure more resistant to damage by fire and water e.g. plough fire breaks etc | Limits the fuel for fire and reduces injuries to people sheltering in buildings | Costly<br>Must be maintained |
| Reduce fuel loads by controlled burning or increasing stocking rates | Reduces intensity of fires and their impact on biodiversity | Cost<br>Air pollution |
| Flood mitigation engineering like levees | Control force and direction of flood waters | Cost |
| Control weeds in flood prone areas | Reduced movement of weed seeds during floods | Cost<br>Possible chemical residues |

## Section IV

### Question 21 (a)

***Answers could include:***

Enterprise named.
Key attributes such as:

1. Punctuality/reliability
2. Honesty
3. Attention to detail
4. Personal presentation
5. Attitude
6. Confidentiality
7. Consistency of work
8. Appropriate behaviour

### Question 21 (b)

***Sample answer:***

- Punctuality/reliability – if the employee is not punctual or reliable, there may be a reduction in output for the enterprise, work may not be completed on time
- Work independently – if person can't work independently, they will need more supervision and take the supervisor away from other work, the work may not be completed on time
- Honesty – if the person is not honest, there may be theft from the enterprise or they may overstate the amount of work they have done or gain extra pay for work not performed.

**Question 21 (c)**

***Answers could include:***

An evaluation of a range of communication strategies for use in an orientation program which could include:

- Cost
- Time
- Appropriateness to enterprise and group
- Ease of delivery
- Effectiveness
- Engagement of participants

| *Communication Strategy* | *Strengths* | *Weaknesses* |
|---|---|---|
| Formal oral presentation with handout notes | Everyone does it at the same time<br>Everyone receives the same information<br>Easy to record participation<br>Employees can refer to notes after the orientation program to clarify their understanding | Requires all new employees to be present at one time<br>May not be engaging<br>Does not suit everyone's learning style<br>Requires good presenter skills<br>Requires significant preparation time<br>Passive communication process<br>May not reflect the actual workplace environment |
| Informal one-on-one meeting | Can cater for individual learning needs<br>Easy to confirm learning<br>Less preparation<br>Active communication process<br>Can be conducted using the actual workplace for instruction | Takes more time for a large group<br>Easy for different people to get different information<br>Possibility of inconsistent information transfer to all employees |
| Informal group discussion | Allows discussion to clarify ideas<br>Can be flexible<br>Active learning<br>Can be conducted using the actual workplace for instruction | Some people will dominate and others may not participate<br>Hard to determine how much has been learned by each individual |
| Self paced written workbook | Easy to administer<br>Same information to all participants<br>People can do in their own time<br>Requires less input by enterprise<br>Less time away from work<br>Easily documented<br>Can add items to strengthen understanding | May not be effective if staff have to do in their own time<br>Takes a lot of time to set up<br>Takes good reading skills<br>Not very interactive<br>May be unrealistic compared with workplace training |

| *Communication Strategy* | *Strengths* | *Weaknesses* |
|---|---|---|
| Orientation tour and talk | Oral communication that can be related to actual workplace context | People with physical disabilities may find it difficult<br>Safety issues<br>If outside, weather can be a problem |
| Online orientation package | Engages people with good technology skills<br>Easy to document<br>Can combine oral and written communication<br>Can be completed any time<br>Can provide feedback to ensure effective communication has occurred | Requires good computer skills<br>May be intimidating for people with poor computing/literacy skills |
| Corporate website | Can combine oral and written communication<br>Can be completed any time<br>Provides background information about company<br>Can be checked by the employer to ensure that the training has been completed | Requires basic computer skills<br>Is passive in information transfer |