Primary Industries

General Instructions
• Reading time – 5 minutes
• Working time – 2 hours
• Write using black or blue pen
• Board-approved calculators may be used
• Write your Centre Number and Student Number at the top of pages 9, 13, 15 and 19

Total marks – 80

Section I  Pages 2–7
15 marks
• Attempt Questions 1–15
• Allow about 15 minutes for this section

Section II  Pages 9–20
35 marks
• Attempt Questions 16–19
• Allow about 45 minutes for this section

Section III  Pages 21–22
30 marks
• Attempt TWO questions from Questions 20–22
• Allow about 1 hour for this section
1 A farmer collected rainfall information and recorded it as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total monthly rainfall (mm)</td>
<td>25</td>
<td>36</td>
<td>23</td>
<td>32</td>
</tr>
</tbody>
</table>

What is the average June rainfall for the years 2003 to 2005?

(A) 21 mm
(B) 28 mm
(C) 29 mm
(D) 84 mm

2 The local radio station has issued a graziers alert for the next 24 hours for the local area.

What sort of weather conditions can local farmers expect?

(A) Overcast and humid
(B) Hot, dry and windy
(C) Cold, wet and windy
(D) Clear skies and frosty nights
The table shows the amount of oral drench required per animal.

<table>
<thead>
<tr>
<th>Body weight (kg)</th>
<th>Oral dose (mL)</th>
<th>Doses per pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 10</td>
<td>1 mL/5 kg liveweight</td>
<td></td>
</tr>
<tr>
<td>11–20</td>
<td>4</td>
<td>5000</td>
</tr>
<tr>
<td>21–30</td>
<td>6</td>
<td>3333</td>
</tr>
<tr>
<td>31–40</td>
<td>8</td>
<td>2500</td>
</tr>
<tr>
<td>41–50</td>
<td>10</td>
<td>2000</td>
</tr>
<tr>
<td>51–60</td>
<td>12</td>
<td>1666</td>
</tr>
<tr>
<td>61–70</td>
<td>14</td>
<td>1428</td>
</tr>
<tr>
<td>71–75</td>
<td>15</td>
<td>1333</td>
</tr>
<tr>
<td>Over 75</td>
<td>1 mL/5 kg liveweight</td>
<td></td>
</tr>
</tbody>
</table>

What dose, in millilitres, is required to drench a 50 kg animal?

(A) 10  
(B) 12  
(C) 1666  
(D) 2000

What is the correct procedure for a single person CPR performed upon an unconscious person?

(A) One effective breath followed by 15 compressions  
(B) Two effective breaths followed by 30 compressions  
(C) Four effective breaths followed by 15 compressions  
(D) Five effective breaths followed by 30 compressions
5 What are standard operating procedures (SOPs) designed to do?

(A) Provide training for the use of machinery
(B) Make tasks easier to handle by one person
(C) Make employees wear personal protective equipment (PPE)
(D) Provide clear and safe guidelines for the performance of a task

6 You do not fully understand some of the instructions given to you during on-the-job training for tractor operations.

What should you do?

(A) Ask a co-worker to drive the tractor
(B) Seek clarification by questioning the instructor
(C) Stay back after work and practise unsupervised
(D) Ask co-workers if they understand the instructions

7 By law, an employer must consult with employees about occupational health and safety (OHS) in the workplace.

Why must the employer consult with employees?

(A) To enable employees to contribute to decisions affecting their health, safety and welfare
(B) To enable employees to contribute to decisions affecting their safety and leave conditions
(C) To enable employees to contribute to decisions affecting their rates of pay and leave conditions
(D) To enable employees to contribute to decisions affecting their work conditions, health and rates of pay
The pay rate for the job you are doing is:

$15.40 per hour normal time
Time-and-a-half for Sundays
Lunch is unpaid time

Your time sheet for the last week is shown.

<table>
<thead>
<tr>
<th></th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start time</td>
<td>8.00 am</td>
<td>7.30 am</td>
<td>7.30 am</td>
<td>7.30 am</td>
<td>7.30 am</td>
</tr>
<tr>
<td>Finish time</td>
<td>4.00 pm</td>
<td>4.30 pm</td>
<td>4.30 pm</td>
<td>4.30 pm</td>
<td>4.30 pm</td>
</tr>
<tr>
<td>Lunch</td>
<td>1 hour</td>
<td>1 hour</td>
<td>1 hour</td>
<td>1 hour</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

What should your pay be for the week?

(A) $516.00
(B) $654.50
(C) $677.60
(D) $739.20

Under which of the following conditions is it best to spray to minimise chemical drift?

(A) Still air, cold temperatures and low humidity
(B) Wind moves branches, warm air and low humidity
(C) Wind can just be felt on cheeks, high temperature and high humidity
(D) Wind can just be felt on cheeks, warm temperature and low humidity

Which signs/symptoms might indicate a potential environmental threat?

(A) Algal blooms in farm dams, flyblown sheep, and low wool prices
(B) Reduced stocking rates due to drought, and a loss of pasture species
(C) Plant death, loss of natural habitat, and increased tree planting by farmers
(D) Increasing numbers and types of weeds, and an increasing number of pest animals
This table shows a nozzle selection guide for ground application.

<table>
<thead>
<tr>
<th>Risk</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred droplet size</td>
<td>Coarse</td>
<td>Medium</td>
<td>Fine</td>
</tr>
<tr>
<td>Pressure (bars)</td>
<td>5.0–6.5</td>
<td>2.0–3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Examples of nozzles</td>
<td>Raindrop air induction</td>
<td>Drift reduction</td>
<td>Conventional</td>
</tr>
<tr>
<td></td>
<td>• Turbo Drop® • Lurmark Drift-beta®</td>
<td>• Turbo TeeJet® • Lurmark® Lo-Drift</td>
<td>• XR TeeJet® • Lurmark® Fan Tip</td>
</tr>
</tbody>
</table>

You have been asked to choose a nozzle to deliver fine droplets using 3.5 bars pressure.

Which of the following nozzles would be most suitable?

(A) Conventional – Turbo Drop®
(B) Drift reduction – Turbo TeeJet®
(C) Conventional – Lurmark® Fan Tip
(D) Drift reduction – Lurmark® Lo-Drift

Which of the following is the most appropriate and economical fence to construct when building a paddock to hold a medium-sized animal such as a sheep, a goat or an alpaca?

(A) Plain wire fence
(B) Barbed wire fence
(C) Wire netting fence
(D) Hinge-joint wire fence

Which of the following are manual handling hazards?

(A) Shovelling, repetitious tasks, bending
(B) Unsafe machinery, hazardous chemicals, lifting
(C) Pulling and pushing, handtool use, lack of sun protection
(D) Lack of ear/eye protection, cleaning and decontamination, upending materials
14 An employee is instructed by their supervisor to operate a piece of electrical equipment that has a frayed, exposed electrical cord.

What should the employee do?

(A) Tape up the frayed, exposed electrical cord with insulating tape
(B) Notify the supervisor of the faulty piece of electrical equipment
(C) Use the piece of electrical equipment as instructed by the supervisor
(D) Ask the supervisor to provide appropriate personal protective equipment (PPE)

15 You are quoting to build a 120 m section of fence. The fence will be built using hinge-joint wire and two plain wires. The cost of the fence is calculated per metre. Whole rolls of wire do not need to be purchased.

\[
\begin{align*}
1 \times 100 \text{ m roll hinge-joint wire costs } &\quad 140 \\
1 \times 1500 \text{ m roll plain wire costs } &\quad 105
\end{align*}
\]

How much will the wire for your fence cost?

(A) $385.00
(B) $245.00
(C) $184.80
(D) $176.40
2007 HIGHER SCHOOL CERTIFICATE EXAMINATION
Primary Industries

Section II

35 marks
Attempt Questions 16–19
Allow about 45 minutes for this section

Answer the questions in the spaces provided.

Question 16 (9 marks)

Please turn over
Question 16 (9 marks)

The following advertisement appears in a newspaper.

PIAC

PIAC is a progressive Public Company, based in central NSW, primarily concerned with agricultural resource development.

A position has become available within the company.

The role primarily requires:
- All aspects of plant production
- Plant propagation with an emphasis on environmental protection
- Machinery operation
- Property maintenance and development

The successful applicant will:
- Need to be able to work as part of a team
- Have excellent communication skills
- Have a sound knowledge of OHS, EEO and workplace First Aid
- Demonstrate a sound knowledge of conservation farming practices
- Be self-motivated

Apply to The Manager, PIAC, PO Box 123, Any Town

Applications close 1 December 2007

(a) (i) Identify TWO skills that would qualify a person for this job. 1

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(ii) How could that person demonstrate that they have acquired these skills? 2

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Question 16 continues on page 11
(b) Complete the table, identifying a benefit and a limitation of each method of communication.

<table>
<thead>
<tr>
<th>Method of communication</th>
<th>Benefit</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Face-to-face</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hand-written letter</td>
<td></td>
<td></td>
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</tbody>
</table>

(c) If a job interview were to be conducted by telephone, outline THREE possible limitations associated with this type of communication.

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End of Question 16
Question 17 (9 marks)

A student on work placement was given the following tasks to complete.

• Slash the paddock using the tractor-mounted slasher
• Unload bags of stock feed from the truck into the shed
• Operate an outdoor electrical pump to transfer water

(a) Who is responsible for providing a safe working environment in this situation?  
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(b) Identify TWO occupational health and safety (OHS) issues relating to any of the above tasks.  
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(c) For the TWO issues identified in part (b), explain what actions could be taken to reduce or minimise the likely chance of injury.  
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Marks

1

2

6
Question 18 (9 marks)
Question 18 (9 marks)

Use the chemical label to answer parts (a)–(c).

Question 18 continues on page 17
Question 18 (continued)

(a) Name the chemical group identified on the label.  

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(b) Identify the active constituent in this chemical.  

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(c) Identify the personal protective equipment (PPE) that should be worn when preparing this chemical.  

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(d) On Tuesday 4 September 2007, you sprayed a paddock with this chemical.  

You used 28 L of this chemical.  

Complete the chemical inventory.  

<table>
<thead>
<tr>
<th>Date used</th>
<th>Quantity remaining (litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>27/8/07</td>
<td>79</td>
</tr>
<tr>
<td>30/8/07</td>
<td>65</td>
</tr>
</tbody>
</table>

Question 18 continues on page 18
Question 18 (continued)

(e) Give TWO reasons why it is important to keep records. 

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(f) Outline TWO methods used for the disposal of empty chemical drums. 

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End of Question 18
Question 19 (8 marks)

The diagram shows a farming area.

(a) List TWO environmental problems that could be associated with this farming area.

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(b) Explain a possible cause for ONE identified environmental problem.

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Question 19 continues on page 20
Question 19 (continued)

(c) Evaluate possible strategies that could be implemented to correct ONE of the problems identified in part (b).

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End of Question 19
Question 20 (15 marks)

A heavy rainstorm has caused floodwaters to move swiftly down the river valley towards your farm. More rain is predicted.

How could you reduce the risk of damage to your property?

In your answer include:

• relevant sources of weather and climatic information;
• the information you need to receive and convey and a justification of your choice of communication methods;
• likely impacts of weather changes.
In your answers you will be assessed on how well you:
■ demonstrate relevant knowledge and understanding
■ communicate ideas and information, using precise industry terminology and appropriate workplace examples
■ organise information in a well-reasoned and cohesive response
■ solve proposed issues or problems

Question 21 (15 marks)

There has been a major chemical spillage near a creek.

How could you manage this spillage?

In your answer include:

• a set of standard operating procedures (SOP) that should be followed in this situation;
• a description of recognised workplace practices and work instructions that should be followed and a justification of their use;
• strategies for minimising potential negative environmental impacts.

Question 22 (15 marks)

A new ringlock fence is to be constructed around an orchard.

How would you construct this ringlock fence?

In your answer include:

• a set of standard operating procedures (SOP) that should be followed in this situation;
• planning and equipment required and an appropriate sequence of procedures;
• a risk assessment and a justification of how the identified risks may be addressed.

End of paper