BOARD OF STUDIES
NEW SOUTH WALES

2007

HIGHER SCHOOL CERTIFICATE EXAMINATION

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

Section I

15 marks
Attempt Questions 1–15
Allow about 15 minutes for this section

Use the multiple-choice answer sheet for Questions 1–15.

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1 A farmer collected rainfall information and recorded it as follows:

Total rainfall for the month of June

Year	2003	2004	2005	2006
Total monthly rainfall (mm)	25	36	23	32

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

3 The table shows the amount of oral drench required per animal.

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

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

(A) 10

(B) 12

(C) 1666

(D) 2000

4 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

8 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.

	Sunday	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
Start time	8.00 am	7.30 am	7.30 am	7.30 am	7.30 am
Finish time	4.00 pm	4.30 pm	4.30 pm	4.30 pm	4.30 pm
Lunch	1 hour	1 hour	1 hour	1 hour	1 hour

What should your pay be for the week?

(A) $516.00

(B) $654.50

(C) $677.60

(D) $739.20

9 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

10 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

11 This table shows a nozzle selection guide for ground application.

Risk	High	Medium	Low
Preferred droplet size	Coarse	Medium	Fine
Pressure (bars)	5.0–6.5	2.0–3.5	3.5
Examples of nozzles	**Raindrop air induction** • Turbo Drop® • Lurmark Drift-beta®	**Drift reduction** • Turbo TeeJet® • Lurmark® Lo-Drift	**Conventional** • XR TeeJet® • Lurmark® Fan Tip

NSW Department of Primary Industries

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

12 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

13 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.

1×100 m roll hinge-joint wire costs \$140

1×1500 m roll plain wire costs \$105

How much will the wire for your fence cost?

(A) \$385.00

(B) \$245.00

(C) \$184.80

(D) \$176.40

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2007 HIGHER SCHOOL CERTIFICATE EXAMINATION

Primary Industries

Centre Number

Section II

Student Number

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

Marks

Question 16 (9 marks)

The following advertisement appears in a newspaper.

> **P I A C**
>
> **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

Marks

Question 16 (continued)

(b) Complete the table, identifying a benefit and a limitation of each method of communication. **3**

Method of communication	*Benefit*	*Limitation*
Email	....	....
Face-to-face	....	....
Hand-written letter	....	....

(c) If a job interview were to be conducted by telephone, outline THREE possible limitations associated with this type of communication. **3**

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End of Question 16

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Primary Industries

Centre Number

Section II (continued)

Student Number

Marks

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? **1**

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(b) Identify TWO occupational health and safety (OHS) issues relating to any of the above tasks. **2**

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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. **6**

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Question 18 (9 marks)

Please turn over

Question 18 (9 marks)

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

CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

FIXTURF XXX

Fungicide

ACTIVE CONSTITUENT: 95 g/L AZOXYSTROBIN

GROUP K FUNGICIDE

For the control of various diseases of turf as per the Directions for Use

→ EPA EST. # 62171-MS-001

1 LITRE

SAFETY DIRECTIONS

Will irritate the eyes and skin. Avoid contact with eyes and skin.

When opening the container and preparing spray, wear:

- cotton overalls buttoned to the neck and wrist (or equivalent clothing)
- elbow-length PVC gloves and
- goggles.

If applying by hand, wear:

- cotton overalls buttoned to the neck and wrist over normal clothing and
- elbow-length PVC gloves.

Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 131 126.

Question 18 continues on page 17

Marks

Question 18 (continued)

(a) Name the chemical group identified on the label. **1**

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(b) Identify the active constituent in this chemical. **1**

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(c) Identify the personal protective equipment (PPE) that should be worn when preparing this chemical. **2**

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(d) On Tuesday 4 September 2007, you sprayed a paddock with this chemical. **1**

You used 28 L of this chemical.

Complete the chemical inventory.

Purchase date	*Product name*	*Quantity purchased* (litres)	*Date used*	*Quantity used* (litres)	*Quantity remaining* (litres)
16/8/07	*FIXTURF XXX*	5 × 20 L drums	27/8/07	21	79
			30/8/07	14	65

Question 18 continues on page 18

Marks

Question 18 (continued)

(e) Give TWO reasons why it is important to keep records. **2**

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(f) Outline TWO methods used for the disposal of empty chemical drums. **2**

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End of Question 18

Primary Industries

Centre Number

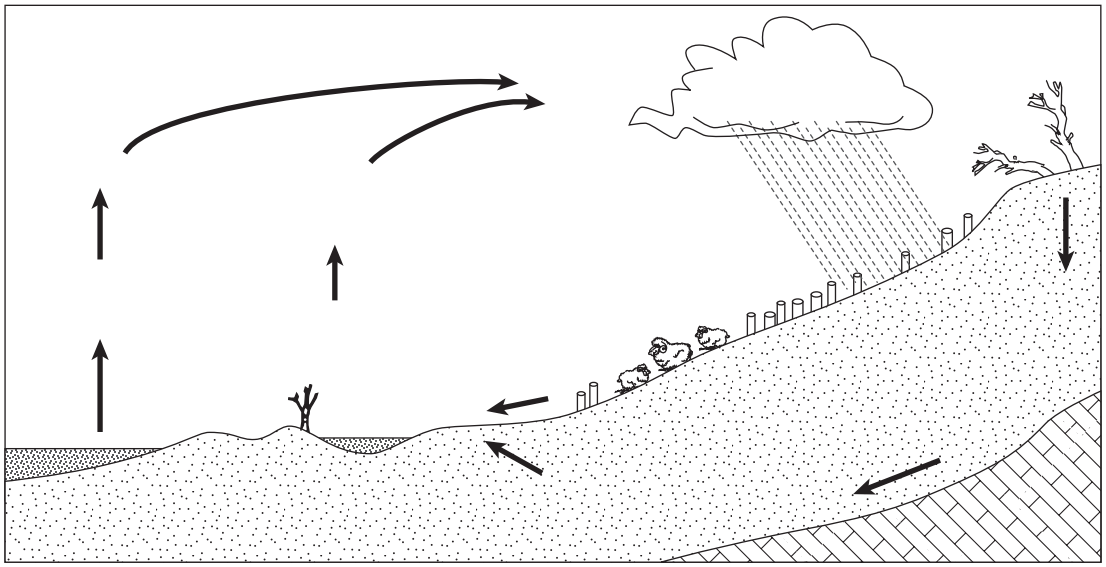
Section II (continued)

Student Number

Marks

Question 19 (8 marks)

The diagram shows a farming area.



(a) List TWO environmental problems that could be associated with this farming area. **2**

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(b) Explain a possible cause for ONE identified environmental problem. **2**

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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). **4**

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End of Question 19

Primary Industries

Section III

30 marks
Attempt TWO questions from Questions 20–22
Allow about 1 hour for this section

Answer each question in a SEPARATE writing booklet. Extra writing booklets are available.

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 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.

Please turn over

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