



B O A R D O F S T U D I E S
NEW SOUTH WALES

2003

**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, 11, 13, 17 and 21

Total marks – 80

Section I Pages 2–8

15 marks

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

Section II Pages 9–21

35 marks

- Attempt Questions 16–20
- Allow about 45 minutes for this section

Section III Page 23

30 marks

- Attempt TWO questions from Questions 21–23
- 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.

Select the alternative A, B, C or D that best answers the question. Fill in the response oval completely.

Sample: $2 + 4 =$ (A) 2 (B) 6 (C) 8 (D) 9
A B C D

If you think you have made a mistake, put a cross through the incorrect answer and fill in the new answer.

A B C D

If you change your mind and have crossed out what you consider to be the correct answer, then indicate the correct answer by writing the word **correct** and drawing an arrow as follows.

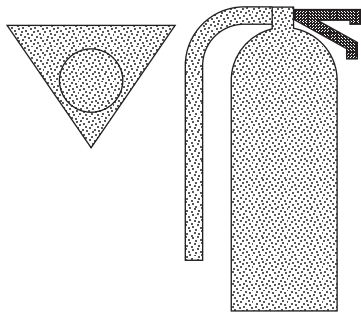
A B C D
correct ↙

- 1** Which of the following determines minimum industry awards and conditions?
- (A) The relevant unions
 - (B) The Department of Fair Trading
 - (C) The Conciliation and Arbitration Commission
 - (D) An agreement between employers and employees
- 2** Whose responsibility is it to provide ear protection for those working in an area identified as having noise hazards?
- (A) The employer
 - (B) The employee
 - (C) WorkCover
 - (D) The Chamber of Commerce
- 3** Which of the following is the most appropriate first response on finding an injured person?
- (A) Seek help
 - (B) Look for danger
 - (C) Check for breathing
 - (D) Phone for an ambulance
- 4** A common mode of action of insecticides, for example organophosphates, is to
- (A) prevent the digestive system from operating effectively.
 - (B) interfere with plants' ability to transport nutrients.
 - (C) prevent organisms communicating with each other.
 - (D) interfere with the transmission of nerve messages in organisms.

- 5** When would the information in Material Safety Data Sheets be used?
- (A) To clean up after a chemical spill
 - (B) To certify produce for food safety
 - (C) To determine the effectiveness of a chemical
 - (D) To calibrate a piece of chemical equipment
- 6** What is the effect of increasing pressure through a spray nozzle?
- (A) Droplet size decreases and the application rate increases.
 - (B) Droplet size decreases and the application rate decreases.
 - (C) Droplet size increases and the application rate decreases.
 - (D) Droplet size increases and the application rate increases.
- 7** In which of the following situations may a workplace Occupational Health and Safety committee be required by the Act?
- (A) In all workplaces
 - (B) In all rural workplaces
 - (C) In workplaces where there are more than twenty employees
 - (D) In workplaces where there are risks and apparent dangers
- 8** Which of the following best describes an Integrated Pest Management program?
- (A) Using organic methods to manage pests
 - (B) Using a range of strategies to manage a pest
 - (C) Using a range of chemicals to manage a pest
 - (D) Using an introduced species to manage a pest

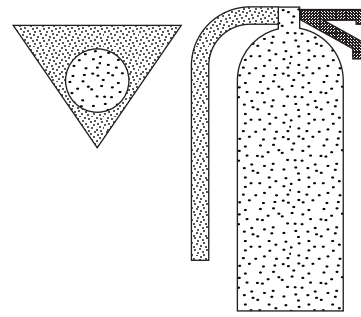
- 9** You have been given a malfunctioning chemical applicator to repair. To ensure your safety, which of the following order of steps is the most appropriate to be undertaken before you begin the repair?
- (A) Select appropriate PPE, identify the chemical, read chemical label
 - (B) Identify the chemical, select appropriate PPE, read chemical label
 - (C) Read chemical label, select appropriate PPE, identify the chemical
 - (D) Identify the chemical, read chemical label, select appropriate PPE
- 10** The recording regulation of the Pesticides Act 1999 requires you to record which of the following information?
- (A) Temperature, pest, paddock area
 - (B) Product name, humidity, soil type
 - (C) Rainfall, wind speed, soil moisture
 - (D) Wind speed, wind direction, application ratio
- 11** The label of a chemical container
- (A) specifies the LD 50.
 - (B) is a legal document.
 - (C) specifies the method of transport.
 - (D) can be removed after the container has been opened.

12 Diagrams of four different extinguishers are shown below.



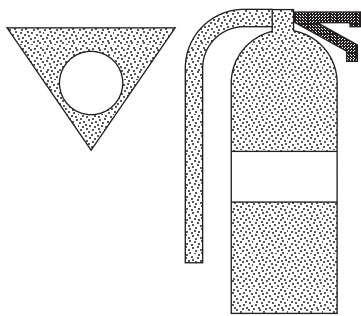
Stored pressure water

1



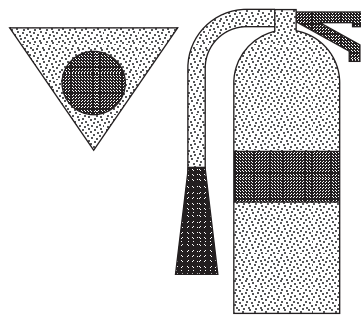
Foam

2



Dry chemical





3



Carbon dioxide

4

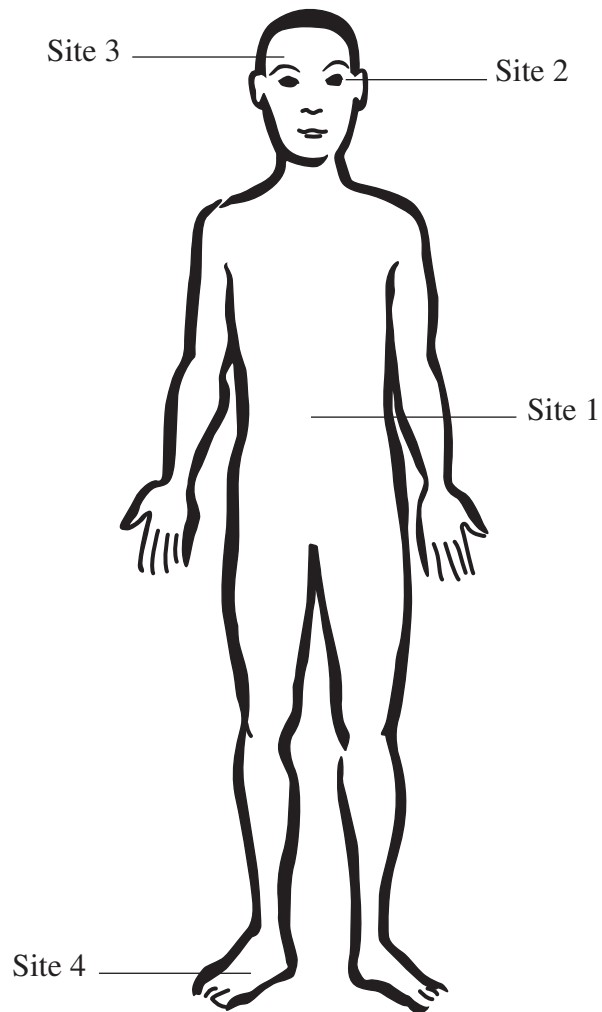
Colour key

 Red	 Blue	 White	 Black
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Your electrical water pump has caught fire. Which types of extinguishers are appropriate to use in this situation?

- (A) 1 and 2
- (B) 2 and 3
- (C) 3 and 4
- (D) 4 and 1

13



Chemicals are absorbed through the skin at different rates for different parts of the body.

Which of the following lists the four sites shown in the diagram in order of rate of absorption from highest to lowest?

- (A) Site 1, Site 2, Site 3, and Site 4
- (B) Site 2, Site 1, Site 3, and Site 4
- (C) Site 2, Site 3, Site 1, and Site 4
- (D) Site 4, Site 3, Site 1, and Site 2

- 14 An example of a telephone message pad is shown in the diagram below.

Telephone message received

Date Time

Message.....

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What other information should be included on a telephone message pad?

- (A) Recipient, name of caller, age of caller
- (B) Name of caller, contact details, recipient
- (C) Age of caller, length of call, name of caller
- (D) Contact details, name of caller, length of call
- 15 A spray unit has four nozzles. When checked, the spray unit produced the following nozzle outputs:

<i>Nozzle</i>	<i>Output</i> (mL/min)
1	600
2	560
3	575
4	665

Which nozzle needed to be replaced?

- (A) 1
- (B) 2
- (C) 3
- (D) 4

Primary Industries

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Centre Number

Section II

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Student Number

35 marks

Attempt Questions 16–20

Allow about 45 minutes for this section

Answer the questions in the spaces provided.

Marks

Question 16 (6 marks)

Name an employment opportunity in primary industries.

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For this role, identify FOUR specific skills required, and outline an occupational health and safety (OHS) issue associated with each skill.

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<i>Skill</i>	<i>OHS issue</i>
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Primary Industries

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Centre Number

Section II (continued)

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Student Number

Marks

Question 17 (7 marks)

- (a) List TWO unsafe work practices that you could encounter in a primary industry workplace. **1**

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- (b) Identify TWO implications for employers and/or employees of NOT dealing with unsafe work practices. **2**

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- (c) Describe TWO strategies that an employer could use to reduce or eliminate Occupational Health and Safety issues in a primary industry workplace. **4**

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Primary Industries

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Centre Number

Section II (continued)

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Student Number

Question 18 (8 marks)

Please turn over

Question 18 (8 marks)

John Smith consigned 45 head of cattle to Mudgee saleyards. He completed the *National Vendor Declaration – Cattle* form as shown.

3159770 National Vendor Declaration – Cattle
Ninth Edition from 1 August 2002

part A Read carefully the Explanatory Notes before completing the Declaration. Please print clearly. This form cannot be used where eligibility for the EU market is required.

* JOHN SMITH Phone 02631234567

Trading as (vendor) J. SMITH + CO

Address 1 DNA' BACK CREEK RD SMITHFIELD 2000

No. of Cattle: Male 20 Female 25 Total 45

Property Identification Code (PIC)/Tail Tag number applying to this consignment ZZ012345

Do the cattle in this consignment carry NUIS devices? Yes No

Way Bill/Travel Permit No. (if applicable) MUDGE Ear 1000000000 Rumen SMITHFIELD

Destination: MUDGE Place of Loading: SMITHFIELD

Dispatch Date: 16/10/2003 Dispatch Time: 7.00 (am/pm)

part B

1 Have any of the cattle in this consignment ever in their lives been treated with an hormonal growth promotant (HGP)? (use a second NVD for mixed consignments)
 Yes No Don't know

2 Have these cattle been raised consistent with the rules of an independently audited QA program on the property, the PIC of which is shown above?
 Yes No

Name of program _____ Accreditation No. _____

3 Were all of the cattle bred and raised on the vendor's property?
 Yes No Don't know If No, how long ago were the cattle obtained or purchased? (if purchased at different times, tick the box corresponding to the time of the most recent purchase)
A Less than 2 months B 2-6 months C 6-12 months D More than 12 months

4 Have any of these cattle been fed by-product stockfeeds in the past 60 days?
 Yes No Don't know If Yes, attach a list of the by-product stockfeeds, date when last fed, a copy of an analyst's report if available.

5 In the past 6 months have any of these cattle been on a property listed on the ERP database or placed under grazing restrictions because of chemical residue?
 Yes No Don't know If Yes, give details _____
If Yes, and an analyst's report or letter of clearance from state authority is available, attach a copy.

6 Are any of the cattle in this consignment still within a Withholding Period or Export Slaughter Interval following treatment with any veterinary drug or chemical?
 Yes No Don't know

If Yes, list details in the following space provided (Record additional details in question 9)

Chemical Product	Treatment date	WHP	ESI (if set)

7 In the past 60 days, have any of these cattle grazed or been fed any pasture, crop, stubble, grain or fodder treated with an agricultural chemical in the 60 days prior to harvest or grazing and:
a) at the time of harvest or first grazing, the Grazing/Fodder WHP stated on the product label had not expired or
b) the agricultural chemical had no Grazing/Fodder WHP stated on the label?
 Yes No Don't know

Where the answer is Yes provide details of:

Product	Date applied	Grazing WHP	Date first fed or grazed	Date feeding/ grazing ceased

8 In the past 42 days, have any of these cattle been held on any property where, in the past 10 weeks: a) endosulfan has been applied; or b) part of the property was included in an endosulfan down-wind no-spray zone with the written permission of the land owner or manager (See Explanatory Notes)
 Yes No Don't know Date sprayed: / /

9 Additional information: see additional information requirements in Explanatory Notes for completing this form.

As the vendor or person responsible for the husbandry of the cattle in this consignment, I declare that all the information stated in this Declaration is true and correct, that I have read and understood the Explanatory Notes and that while under my control, the cattle covered by this declaration were not fed animal material, including meat or bone meal, in breach of State or Territory legislation.

Signed: [Signature] Date: 16/10/03
(Only the vendor or the person responsible for the husbandry of the cattle, whose name appears above, may make, amend or sign this declaration)

part C **Agent's Declaration for Cattle Sold at Auction**
In the case of cattle sold at auction, this declaration is to be retained by the selling agent for a minimum of two (2) years. A copy is to be made available to any buyer of the consignment or part of the consignment on request.

Vendor Code: _____ Agent's Code: _____

Stock Agent Company: _____

Buyer's name: _____

No. of cattle purchased: _____ Saleyard arrival time (h:mm): _____

Agent's Signature: _____ Date: / /

PLEASE ENSURE EVERY SECTION IS FULLY COMPLETED

Question 18 continues on page 15

Question 18 (continued)

- (a) Give TWO reasons why cattle producers are required to complete *National Vendor Declaration* forms when selling cattle. 2

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- (b) Identify the potential risks for the purchaser associated with this vendor's answers to Question 3 and Question 7 on the *National Vendor Declaration – Cattle* form. 2

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- (c) Discuss a range of potential consequences to the vendor and to the purchaser if any information is incomplete or incorrect. 4

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End of Question 18

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Primary Industries

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Centre Number

Section II (continued)

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Student Number

Question 19 (8 marks)

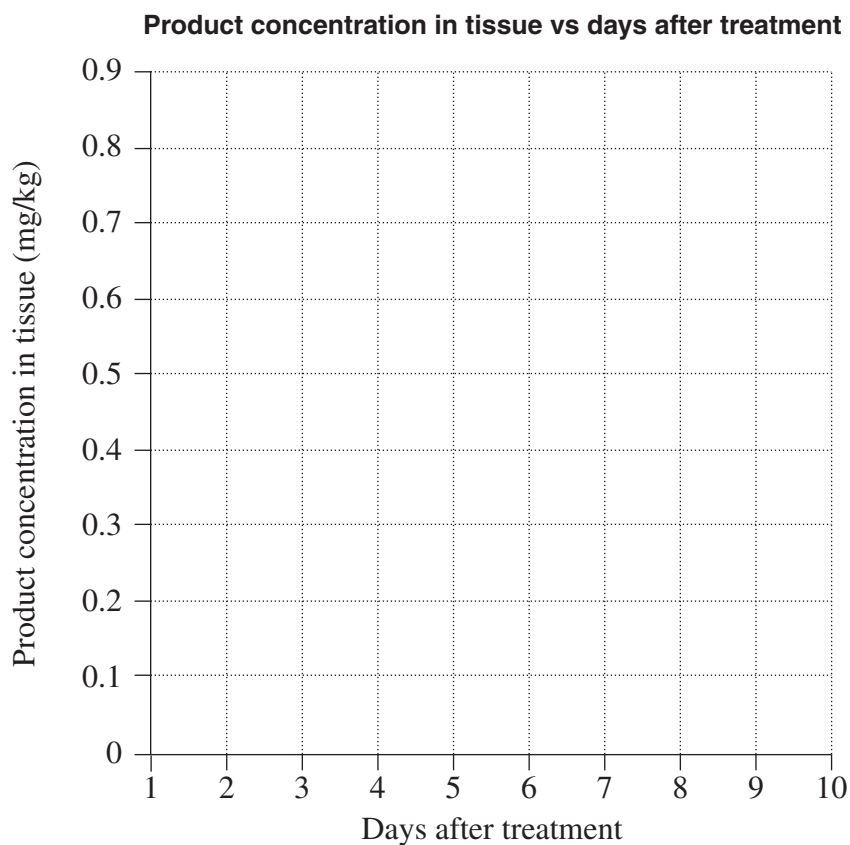
Please turn over

Question 19 (8 marks)

An animal was treated with two animal health products (*A* and *B*) to control internal and external parasites. The following data were collected on the concentration of the products in the animal's tissue over a period of ten days.

Concentration		
<i>Day</i>	<i>Product A</i> (mg/kg)	<i>Product B</i> (mg/kg)
1	0.8	0.5
2	0.7	0.5
3	0.5	0.5
4	0.3	0.5
5	0.1	0.5
6	0.05	0.5
7	0.05	0.5
8	0.05	0.4
9	0.05	0.3
10	0.05	0.2

- (a) On the grid provided, plot the data to produce a line graph for each product. **2**



Question 19 continues on page 19

Question 19 (continued)

- (b) Define the term ‘MRL’. 1

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- (c) Product *A* has an MRL of 0.3 mg/kg. When did the tissue in the animal first reach the MRL for this product? 1

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- (d) The level of product *B* that is safe for human consumption is 0.45 mg/kg. What would be the recommended withholding period for an animal treated with product *B*? 1

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- (e) Describe the implications of slaughtering the animal before the withholding period has elapsed, in terms of legal, food safety and marketing aspects. 3

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End of Question 19

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Primary Industries

Grid for Centre Number

Centre Number

Section II (continued)

Grid for Student Number

Student Number

Marks

Question 20 (6 marks)

You are working at a commercial market garden. One of your duties is to pump daily run-off water from a collection tank, which is situated inside a small shed.

The petrol-powered pump weighs 25 kilograms and is transported on the back of a utility. The pump has to be lifted off the utility and into position inside the shed each time it is used.

- (a) Identify a risk posed by each of the hazards listed.

2

Table with 2 columns: Hazard, Risk posed/harm. Rows: Manual handling, Fumes from pump, Noise.

- (b) Select ONE of the hazards listed. Propose a range of changes to the way the job could be carried out to reduce or eliminate this hazard. Justify your changes in terms of each of the control options in the hierarchy of control.

4

Dotted lines for answer writing

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Primary Industries

Section III

30 marks

Attempt TWO questions from Questions 21–23

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
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Question 21 (15 marks)

A 100 hectare paddock needs to be sprayed with a knockdown herbicide in preparation for sowing a crop. The paddock is located 30 kilometres away from the home block.

Analyse the factors that need to be considered in planning this activity to minimise risks, ensure effective application, and meet environmental and legal obligations.

Question 22 (15 marks)

Design a recording document for a chemical inventory. Evaluate the need for keeping accurate records of chemicals, and assess the implications if this does not occur.

Question 23 (15 marks)

Discuss the importance of the information contained in a Material Safety Data Sheet (MSDS) for the use and management of chemicals, particularly in the event of a chemical spill.

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