

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

2011

**HIGHER SCHOOL CERTIFICATE
EXAMINATION**

Primary Industries

General Instructions

- Reading time – 5 minutes
- Working time – 2 hours
- Write using black or blue pen
Black pen is preferred
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of pages 9, 11, 15 and 17

Total marks – 80

Section I Pages 2–7

15 marks

- Attempt Questions 1–15
- Allow about 20 minutes for this section

Section II Pages 9–18

35 marks

- Attempt Questions 16–19
- Allow about 50 minutes for this section

Section III Page 19

15 marks

- Attempt Question 20
- Allow about 25 minutes for this section

Section IV Page 20

15 marks

- Attempt Question 21
- Allow about 25 minutes for this section

Section I

15 marks

Attempt Questions 1–15

Allow about 20 minutes for this section

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

- 1 In which order should you apply treatments to a sprained ankle?
 - (A) Rest, ice, compression and massage
 - (B) Rest, ice, compression and elevation
 - (C) Rest, heat, compression and elevation
 - (D) Rest, massage, compression and elevation

- 2 The withholding period is the time between the chemical application and
 - (A) selling the product.
 - (B) packaging the product.
 - (C) harvesting the product.
 - (D) consuming the product.

- 3 Which types of fire extinguishers are appropriate to use if petrol from a chainsaw has caught fire?
 - (A) Water and foam
 - (B) Water and dry chemical
 - (C) Carbon dioxide and foam
 - (D) Carbon dioxide and dry chemical

- 4 Why should you repeat an instruction given to you by your supervisor?
 - (A) To be polite to the supervisor
 - (B) To show your supervisor that you have been listening
 - (C) To confirm that you have correctly understood the instructions
 - (D) To ensure that the supervisor understands what has been asked

- 5 Which of the following is an employee responsibility under the *Occupational Health and Safety Act 2000* (NSW)?
- (A) To provide information and training
 - (B) To establish safe working procedures
 - (C) To maintain the place of work in a safe condition
 - (D) To take reasonable care of others on the work site

- 6 The table shows the field notes made by J Farmer during an observation of his farm.

Field Notes	2/8/2011	J Farmer
Crops	<ul style="list-style-type: none"> • Uneven germination and growth • Areas of yellow plants • Leaves in other areas dying at the edges 	
Pastures	<ul style="list-style-type: none"> • Clover disappearing • Tall grasses like spike rush spreading widely • Annual grasses becoming dominant 	
Soil	<ul style="list-style-type: none"> • Bare patches developing • White crystals seen in paddock depressions 	

Which environmental problem is most likely to be occurring according to the field notes recorded by J Farmer?

- (A) Waterlogging
 - (B) Dry land salinity
 - (C) Water contamination
 - (D) Reduction of biodiversity
- 7 At which stage of its life cycle is it best to spray a weed with herbicide?
- (A) Seed set
 - (B) Flowering
 - (C) Late vegetative
 - (D) Early vegetative

The following table relates to Questions 8 and 9.


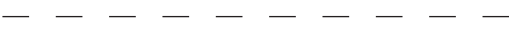
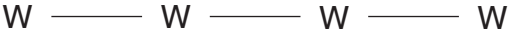

A five-day weather forecast

	Tuesday	Wednesday	Thursday	Friday	Saturday
Maximum temperature (°C)	37	43	42	42	32
Minimum temperature (°C)	25	28	30	32	28
Chance of rain (%)	0%	0%	0%	10%	60%
Relative humidity (%)	28%	20%	15%	35%	70%
Wind speed (km/h)	15	14	20	15	20
Wind direction	NNE	N	NW	NW	SE

8 Which day would present the greatest fire risk?

- (A) Tuesday
- (B) Wednesday
- (C) Thursday
- (D) Friday

9 What symbol on a weather map would represent the weather event that is forecast to occur early Saturday morning?

- (A) 
- (B) 
- (C) 
- (D) 

- 10 The final step in a written work plan for the repair of a fence states ‘collect all wire off-cuts’.

What is the main reason for this step?

- (A) To recycle the off-cuts
- (B) To prevent iron toxicity in plants
- (C) To ensure that the task is complete
- (D) To prevent injury to livestock and people

11

Diagrams of sections of two fence types

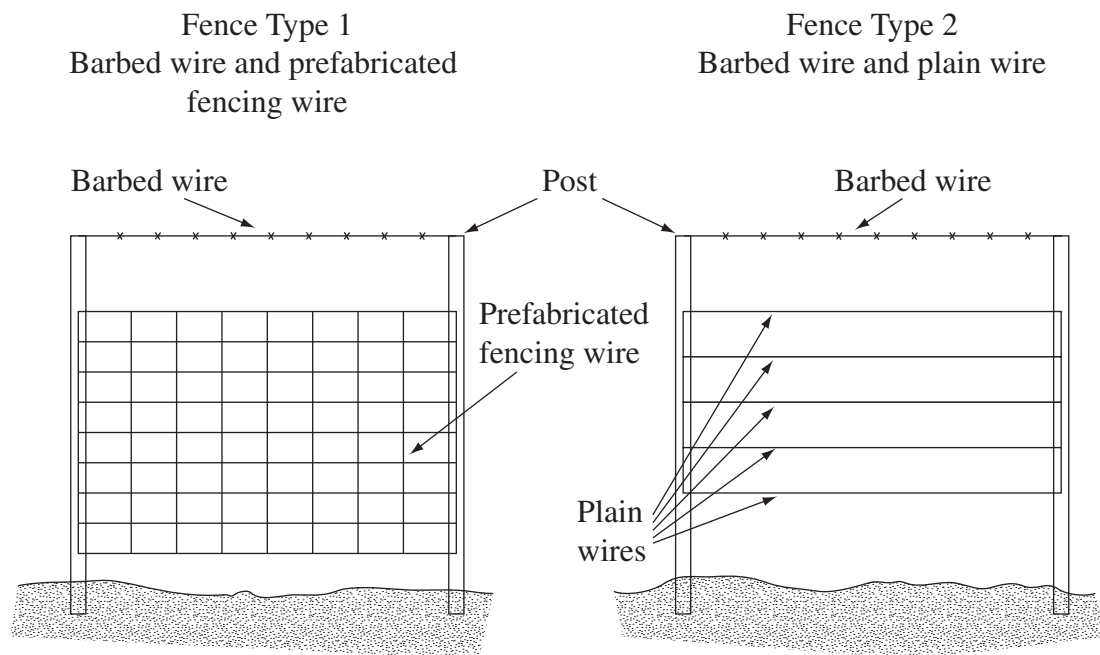


Table of prices for fencing materials

<i>Fencing material</i>	<i>Cost per metre</i>
Barbed wire	\$0.25
Prefabricated fencing wire	\$1.00
Plain wire	\$0.05

What is the difference in the total cost of wire (in dollars) for a 400 metre section of each fence?

- (A) \$200
- (B) \$300
- (C) \$500
- (D) \$700

12 The question, 'What factors do you take into consideration when controlling weeds?', can best be described as

- (A) an open question.
- (B) a closed question.
- (C) a leading question.
- (D) a reflective question.

13 The following list of tasks was provided to an employee on arrival at work at 7.30 am.

1. Feed cattle
2. Grease tractor
3. Pack fruit ready for loading on transport at 10.00 am
4. Repair broken water supply to a stocked poultry shed

What is the correct priority sequence for the above tasks?

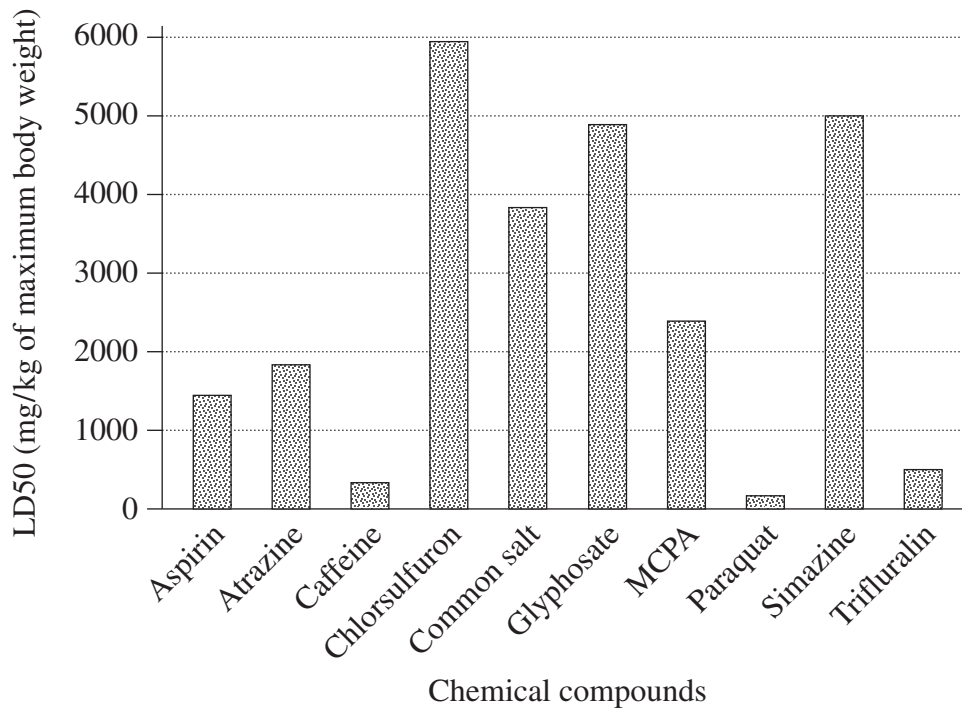
- (A) 4, 3, 1, 2
- (B) 3, 1, 2, 4
- (C) 2, 1, 4, 3
- (D) 1, 2, 3, 4

14 A paddock contains an emerging wheat crop, which after harvest is to be followed by a sunflower crop.

Which is the most appropriate chemical to treat a broadleaf weed in this wheat crop?

- (A) A grass weed herbicide
- (B) Broad spectrum herbicide
- (C) Broadleaf persistent herbicide
- (D) Broadleaf knock down herbicide

- 15 The graph shows the lethal dose to 50% (LD50) for rats exposed to some chemical compounds.



Which of the following correctly lists chemical compounds from most toxic to least toxic for rats?

- (A) Paraquat, Aspirin, MCPA, Chlorsulfuron
- (B) Simazine, common salt, MCPA, Atrazine
- (C) Chlorsulfuron, Simazine, Glyphosate, common salt
- (D) Atrazine, Trifluralin, Caffeine, Paraquat

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Primary Industries

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Centre Number

Section II

35 marks

Attempt Questions 16–19

Allow about 50 minutes for this section

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Student Number

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 16 (8 marks)

You are employed in a primary industry enterprise.

- (a) Name TWO organisations that you could contact for information on your employment terms and conditions. 2

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- (b) Why is it important to understand your award conditions? 2

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Question 16 continues on page 10

Question 16 (continued)

(c) Your hourly rate of pay is \$15.50 and you work a 40-hour week.

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Your weekly taxation rate can be calculated from the following table.

<i>Gross pay per week</i>	Less than \$120	\$121 – \$710
<i>Tax Rate</i>	Nil	15 cents in the dollar

You receive the following non-taxable allowances:

- First Aid Certificate \$15 per week
- Heavy vehicle licence \$30 per week.

Using the information provided calculate your net pay, including allowances, for one week.

Show all working in the spaces provided.

Gross Pay =

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Tax Payable =

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Net Pay =

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Net Pay plus allowances =

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End of Question 16



2011 HIGHER SCHOOL CERTIFICATE EXAMINATION

Primary Industries

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Centre Number

Section II (continued)

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Student Number

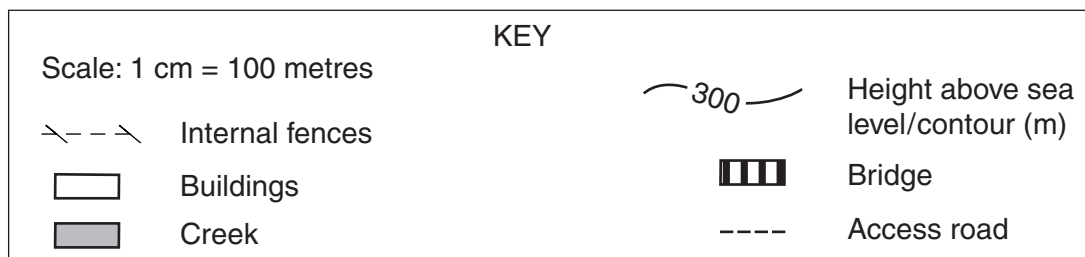
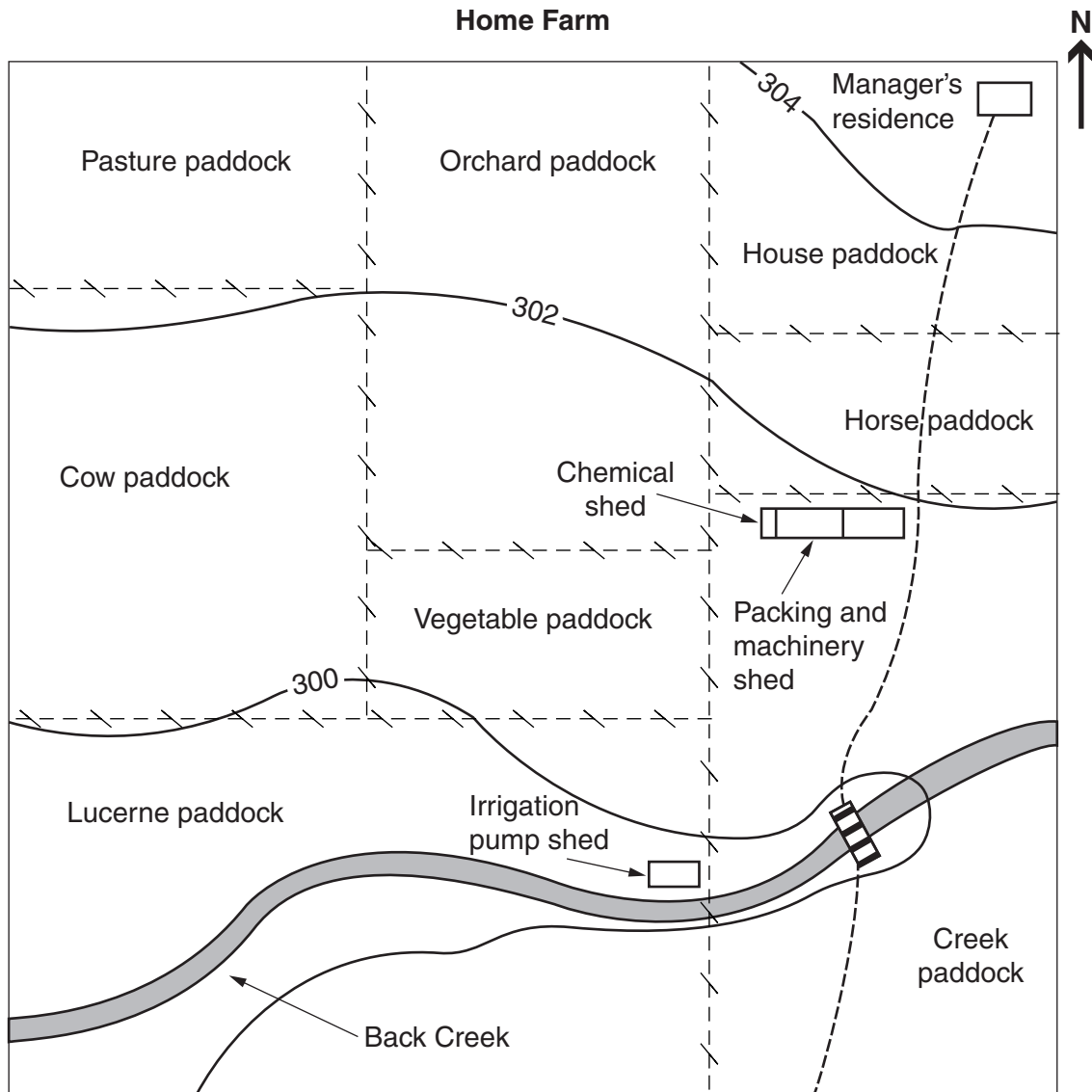
Question 17 (9 marks)

Please turn over

Question 17 (9 marks)

Use the plan of Home Farm to answer Question 17.

You are the manager of Home Farm. Following continuous heavy rainfall in the catchment, a flood warning has been issued for Back Creek. It is predicted that the flood will peak in 24 hours time at two metres at the bridge on your property. It will remain above one metre for the next three days.



Question 17 continues on page 13

Question 17 (continued)

- (a) What immediate impacts could the flood have on Home Farm? **2**

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- (b) What actions could you take following the flood warning to reduce the effect of the predicted flood? **3**

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- (c) Propose a detailed long-term plan to minimise the impact of future floods on Home Farm. **4**

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End of Question 17

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Primary Industries

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Centre Number

Section II (continued)

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Student Number

Question 18 (9 marks)

In October, a broadleaf weed infestation on a 10 hectare paddock is to be treated using WeedkillXX. The required chemical application rate is 1.5 L per hectare.

- (a) Calculate the correct volume (in litres) of chemical WeedkillXX that is required to treat the paddock. **1**

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- (b) On 20 October 2011, you completed the treatment of this paddock. Using the table provided, complete the FOUR missing entries that would be required for the Chemical Inventory Record. **2**

Chemical Inventory Record

Purchase date	Chemical name and expiry date	Quantity purchased (litres)	Date used	Quantity used (litres)	Quantity remaining
16/7/2011	WeedkillXX July 2012	2 × 20 L drums	20/8/2011	7
			25/9/2011	10
			20/10/2011

Question 18 continues on page 16

Question 18 (continued)

- (c) Explain the importance of keeping chemical application records in a primary industry enterprise.

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End of Question 18

Primary Industries

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Centre Number

Section II (continued)

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Student Number

Question 19 (9 marks)

A 5 kilometre length of fence, located in a remote bushland area 20 kilometres from town, has been damaged by fire. The fence consisted of wooden strainer assemblies, steel star posts, plain wire and barbed wire. You are responsible for organising materials, equipment and the work team to complete the repair job.

- (a) Name a piece of machinery or equipment and explain its importance for the completion of this job. **2**

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- (b) List the sequence of steps in a standard operating procedure (SOP) to replace a wooden strainer assembly. **3**

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Question 19 continues on page 18

Question 19 (continued)

(c) Develop a safe and efficient work plan for the repair job.

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End of Question 19

Primary Industries

Section III

15 marks

Attempt Question 20

Allow about 25 minutes for this section

Answer the question in a writing booklet. Extra writing booklets are available.

In your answer you will be assessed on how well you:

- demonstrate knowledge and understanding relevant to the question
 - communicate ideas and information using relevant workplace examples and industry terminology
 - present a logical and cohesive response
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Question 20 (15 marks)

Evaluate a range of weed control methods for a named weed in terms of their effectiveness, environmental impacts and risks to people.

Please turn over

Section IV

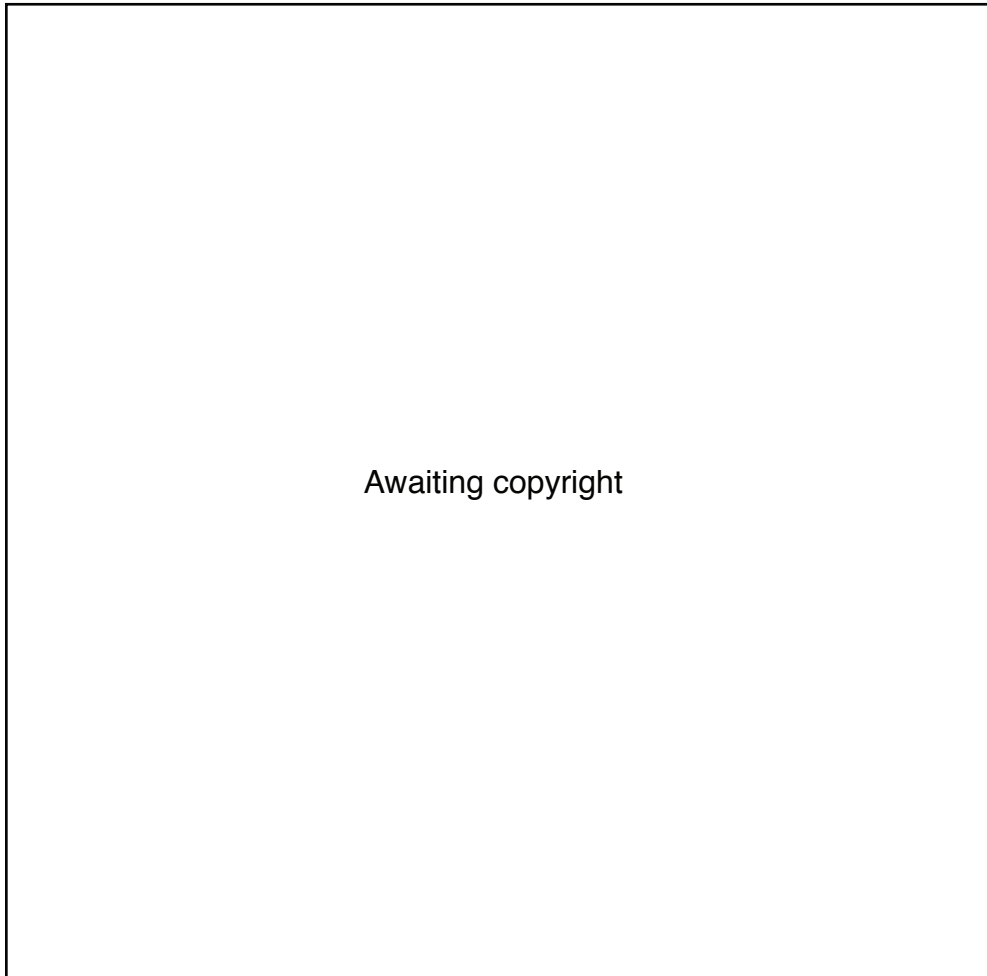
15 marks

Attempt Question 21

Allow about 25 minutes for this section

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

Question 21 (15 marks)



- (a) What are **THREE** potential environmental threats associated with land use activities shown on the catchment diagram? **3**
- (b) Describe the potential impacts of **TWO** of these threats on the environment. **4**
- (c) Analyse a range of strategies that would minimise the environmental impacts of **ONE** of these threats. **8**

End of paper