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School code

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School name

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Given name/s

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Family name

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Attach your
barcode ID label here

Book

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of

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books used

External assessment

Question and response book

Earth & Environmental Science

Paper 1

Time allowed

- Perusal time — 10 minutes
- Working time — 90 minutes

General instructions

- Answer all questions in this question and response book.
- QCAA-approved calculator permitted.
- Planning paper will not be marked.

Section 1 (15 marks)

- 15 multiple choice questions

Section 2 (35 marks)

- 5 short response questions





DO NOT WRITE ON THIS PAGE

THIS PAGE WILL NOT BE MARKED



Section 1

Instructions

- Choose the best answer for Questions 1–15.
- This section has 15 questions and is worth 15 marks.
- Use a 2B pencil to fill in the A, B, C or D answer bubble completely.
- If you change your mind or make a mistake, use an eraser to remove your response and fill in the new answer bubble completely.

	A	B	C	D
Example:	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	A	B	C	D
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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10.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do not write outside this box.

Section 2

Instructions

- Write using black or blue pen.
 - If you need more space for a response, use the additional pages at the back of this book.
 - On the additional pages, write the question number you are responding to.
 - Cancel any incorrect response by ruling a single diagonal line through your work.
 - Write the page number of your alternative/additional response, i.e. See page ...
 - If you do not do this, your original response will be marked.
 - This section has five questions and is worth 35 marks.
-

QUESTION 16 (6 marks)

- a) Use Stimulus 1 in the stimulus book to identify which location flood mitigation efforts should be focused on. Justify your decision using three pieces of evidence from the stimulus.

[4 marks]

- b) Identify a long-term flood mitigation strategy that could be implemented to decrease the flood risk at this location. Explain how this mitigation strategy would reduce the risk of flooding.

[2 marks]

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QUESTION 17 (5 marks)

Explain how land clearing can influence climate change. Identify three subsequent impacts on Earth's biosphere.

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QUESTION 18 (5 marks)

This question refers to Stimulus 2 and 3 in the stimulus book.

A mine that opened in 2014 was surrounded by semi-open woodland. As part of the mine’s environmental plan, soil pH was monitored at four sites around the mine. The distribution of three native grass species, a woody weed species and an annual weed species was also monitored and recorded.

- a) Draw a conclusion about which plant species were negatively affected by the operation of the mine. Use data from the stimulus to support your response. *[2 marks]*

- b) Draw a conclusion about which monitoring site the data in Stimulus 3 was recorded at. Justify your conclusion using evidence from Stimulus 2 and 3. *[3 marks]*

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QUESTION 19 (6 marks)

This question refers to Stimulus 4 in the stimulus book.

- a) Contrast the data to draw a conclusion about the potential to maintain a sustainable ecological footprint by using hydroponic systems to grow agricultural crops instead of conventional methods.

[4 marks]

- b) Determine a method to reduce the ecological footprint associated with using hydroponic systems for agricultural production. Describe your reasoning.

[2 marks]

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QUESTION 20 (13 marks)

This question refers to Stimulus 5, 6 and 7 in the stimulus book.

- a) Use Stimulus 5 to contrast the percentage change in the commercial catch of blue swimmer crabs and spanner crabs between 2008 and 2017.

[5 marks]

- b) Use Stimulus 5–7 to draw conclusions about the long-term sustainability of each crab species as commercial native biota. Justify your conclusions using two pieces of evidence for each crab species from any of the stimulus.

[6 marks]

Do not write outside this box.



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