

Cambridge International Examinations

Cambridge International Advanced Subsidiary Level

Paper 2 Hydrosphere and Biosphere			May/June 2018
ENVIRONMEN	TAL MANAGEMENT		8291/2 ⁻
CENTRE NUMBER		CANDIDATE NUMBER	
CANDIDATE NAME			

Additional Materials:

Answer Booklet/Paper

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Electronic calculators may be used.

You may lose marks if you do not show your working or if you do not use appropriate units.

Section A

Answer all questions in this section.

Write your answers in the spaces provided on the question paper.

Section B

Answer **one** question from this section.

Write your answers on the separate answer paper provided.

At the end of the examination,

- I. fasten all separate answer paper securely to the question paper;
- 2. enter the question number from Section B in the grid.

	Examiner's Use
Section A	
1	
2	
Section B	
Total	

For

1 hour 30 minutes

This document consists of **11** printed pages and **1** blank page.

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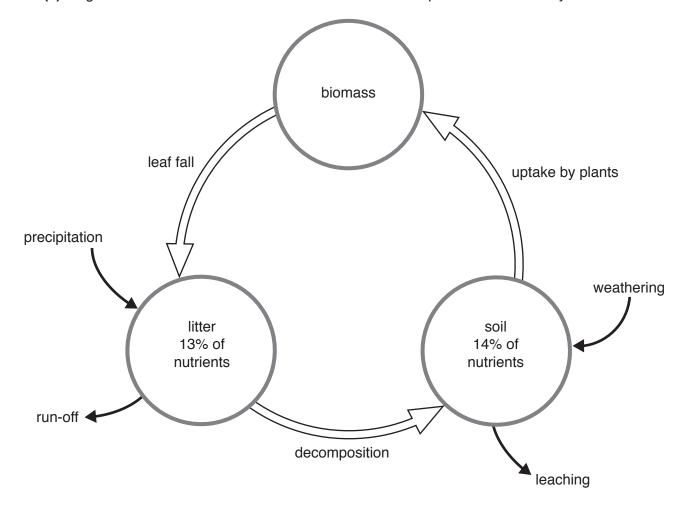


Section A

Answer all questions in this section.

Write your answers in the spaces provided.

1 (a) Fig. 1.1 shows the flows and stores of nutrients in a tropical rainforest ecosystem.



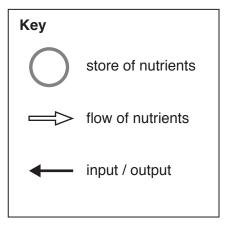
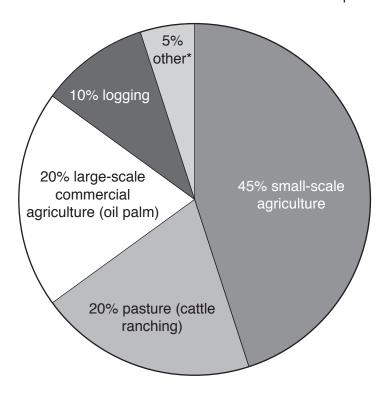


Fig. 1.1

(i)	Calculate the percentage of nutrients stored in biomass in the tropical rainforest ecosystem shown in Fig. 1.1.
	% [1]
(ii)	State what is meant by the term <i>biomass</i> .
	[1]
(iii)	With reference to Fig. 1.1, describe the interactions between the stores of nutrients within a tropical rainforest ecosystem.
	[3]
(iv)	Explain how precipitation influences the stores and flows of nutrients in a tropical rainforest ecosystem.
	[4]

xplain why more nutrients are stored in biomass than in the litter and soil in a tropical ainforest.
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(b) Fig. 1.2 shows human activities that lead to deforestation of a tropical rainforest.

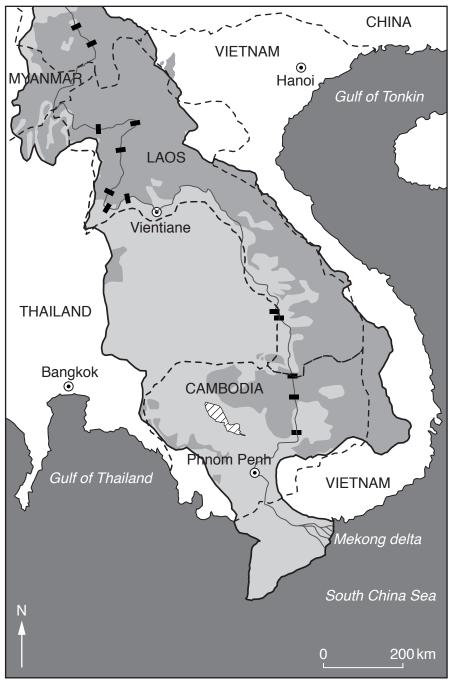


*other includes urbanisation, mining, construction of roads and dams

Fig. 1.2

(i)	Describe the ways in which the human activities shown in Fig. 1.2 affect the nutrient cycle in the tropical rainforest shown in Fig. 1.1.
	[5]
(ii)	Suggest ways in which the impact of human activities on tropical rainforest ecosystems
()	can be reduced.
	[3]
	[7] [Total: 20]

2 Fig. 2.1 contains information about the Mekong river basin in Southeast Asia and the sites of some dam-building projects.



Snow and glacier melt is the main source of freshwater in the upper course of the river.

The river flow is influenced by the monsoon rains (May to October).

The Mekong delta:

- is an area of low land where the Mekong river splits into smaller rivers
- is inundated by saltwater when river flow is low during the dry season (November to April)
- is a major rice-growing region of the world
- has a population of approximately 17 million.

Key

capital city
Mekong river basin boundary
Mekong river
Iand outside Mekong river basin
dam-building projects
sea
national boundary

Fig. 2.1

(a)	(i)	With reference to the information in Fig. 2.1, explain why the Mekong delta is prone to flooding.
		[4]
		areas such as the Mekong delta.
		[6]

(b) (i)	Outline two benefits of dam-building projects, such as those shown in Fig. 2.1.
	[4]
(ii)	
	in your answer.
	[6]
	[Total: 20]

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Section B

Answer **one** question from this section.

Write your answers on the separate answer paper provided.

3 Fig. 3.1 shows the number of major oil spills from tankers in the world's oceans in four successive decades.

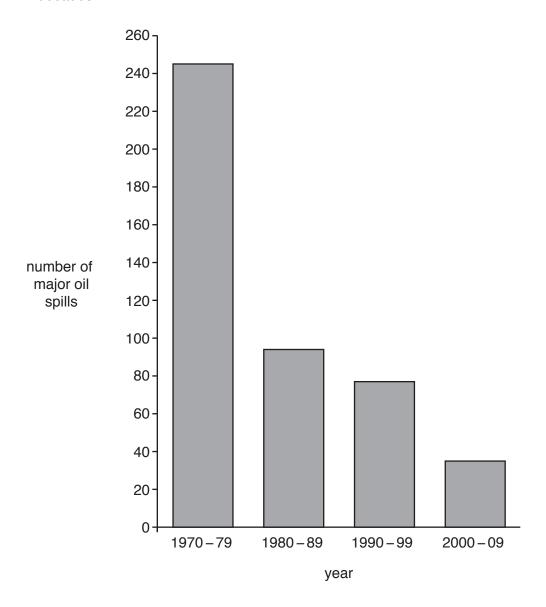


Fig. 3.1

- (a) With reference to Fig. 3.1, describe the change in the number of major oil spills and suggest reasons for this change. [10]
- (b) Briefly describe the main sources of marine pollutants other than oil spills.

Using examples, explain to what extent the pollution of the marine environment can be managed by individual countries. [30]

[Total: 40]

4 Fig. 4.1 shows two examples of an ecological island.

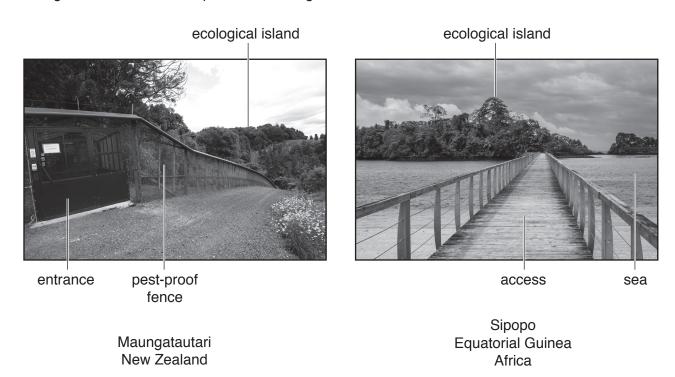


Fig. 4.1

- (a) Describe and explain what is meant by an ecological island. Refer to Fig. 4.1 in your answer. [10]
- (b) 'The most effective methods for the conservation of ecosystems exclude all human activity.'

Using examples of different methods of conservation of ecosystems, discuss how far you agree with this statement. [30]

[Total: 40]

5 Fig. 5.1 shows the total global population and its percentage annual growth rate, from 1900 to 2015.

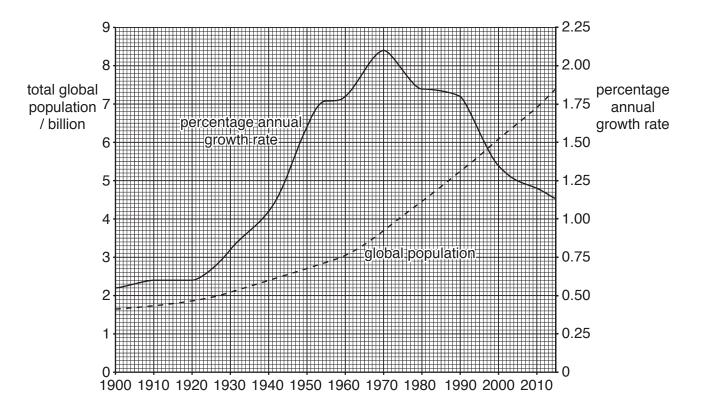


Fig. 5.1

- (a) Briefly describe the changes in the percentage annual growth rate of the global population from 1900 to 2015. Suggest reasons for these changes. [10]
- (b) Using examples from countries at contrasting levels of economic development, describe the impact of population change on resources. [30]

[Total: 40]

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