

Cambridge IGCSE[™]

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

0289228861

ENVIRONMENTAL MANAGEMENT

0680/13

Paper 1 Theory

May/June 2021

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer all questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do not use an erasable pen or correction fluid.
- Do not write on any bar codes.
- You may use a calculator.
- You should show all your working and use appropriate units.

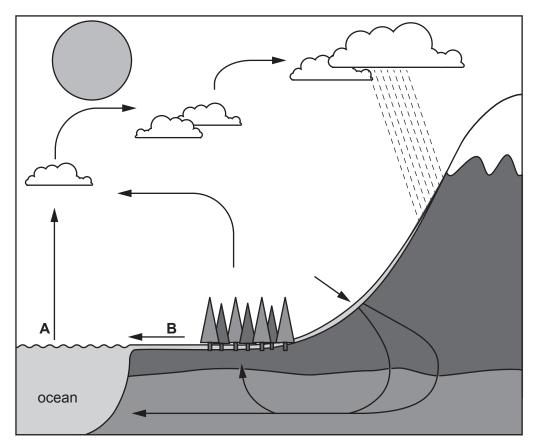
INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [].

Section A

1 The diagram shows part of the water cycle.





A	
В	[2]

(b) Some countries with large stores of fresh water **cannot** supply enough drinking water to their populations.

uggest reasons why.
[3]

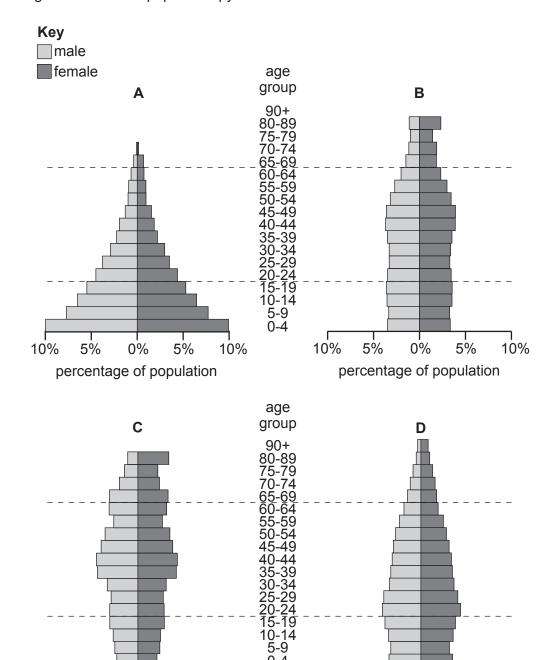
[Total: 5]

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(a) State the names of processes A and B.

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2 The diagram shows four population pyramids.



(a) State which population pyramid is **most** likely to represent a less economically developed country (LEDC). Give a reason for your answer.

population pyramid .		
reason	 	

10%

5%

0%

percentage of population

5%

10%

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0%

percentage of population

5%

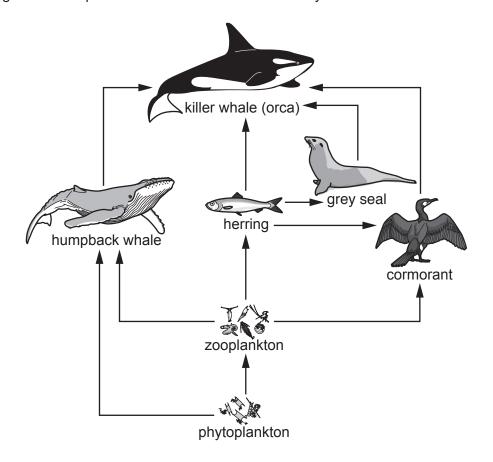
10%

10%

5%

(b)	Suggest ways a low birth rate affects a country over time.
	[2]
(c)	State one pronatalist policy that can be introduced by a country.
	[1]
(d)	State two reasons for a sudden change in the population of a country.
	1
	2
	[2]
	[Total: 7]

3 The diagram shows part of a food web in a marine ecosystem.



(a) (i) Complete the food chain using the diagram.

•••••	—> —> cormorant —>	[2]
(ii)	Explain how overfishing of herring might affect the population of killer whales.	
		. [2]

(b)	Explain two strategies to prevent overfishing.
	strategy 1
	explanation
	strategy 2
	explanation
	[4]
	[Total: 8]

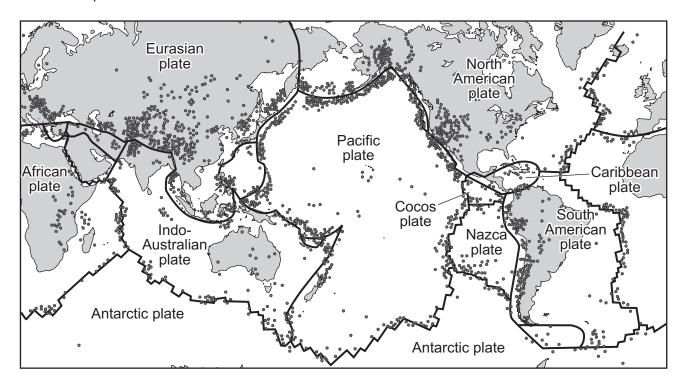
Section B

4 The map shows the location of plate boundaries and earthquake zones around the world.

Key

plate boundary

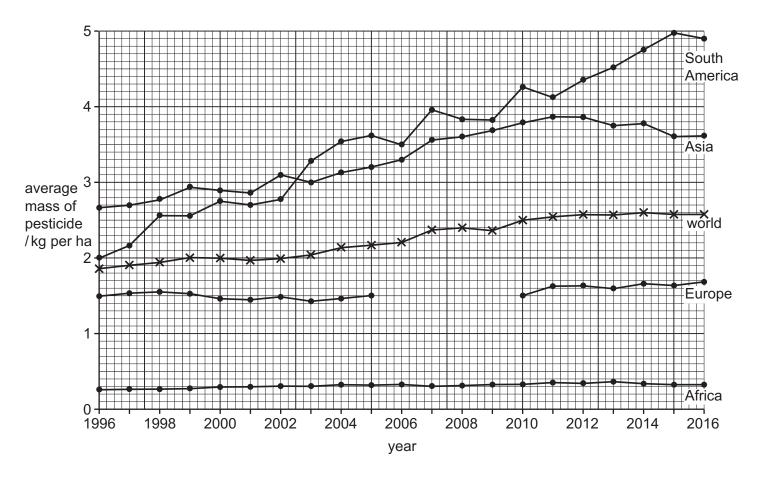
earthquake zone



(a)	Describe the distribution of earthquake zones shown on the map.	
		[-]
(b)	Describe how an earthquake occurs at a destructive (convergent) plate boundary.	
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(b)		
(b)		
(b)		

(c)	(i)	Describe how the structure of modern buildings can reduce the risk of death from earthquakes.
		[3]
	(ii)	Often, more people die in the weeks following an earthquake than during the earthquake itself.
		Suggest reasons why.
		[4]
		[Total: 13]

5 (a) The graph shows the average mass of pesticide used in agriculture from 1996 to 2016 in four continents and the world.



(i) Complete the graph for Europe using the data in the table.

year	average mass of pesticide used in agriculture in Europe /kg per ha
2006	1.4
2007	1.5
2008	1.6
2009	1.4

-	
''	

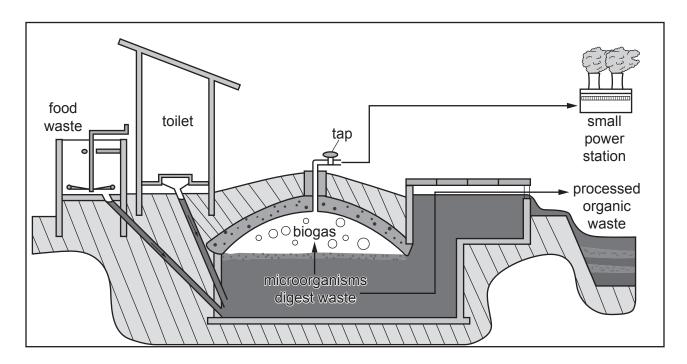
(ii)	Describe the trends in pesticide use in Asia between 1996 and 2016.				
	[0]				

(iii) Calculate the percentage change in pesticide use in South America between 1996 and

	% [2]
(b)	State the benefits of using pesticides in agriculture.
	[3]
(c)	Suggest two alternatives to using pesticides to control pests on crops.
	1
	2
	[2]
	[Total: 11]

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6 The diagram shows an 'anaerobic digester'. The anaerobic digester is used to produce biogas from food waste and human waste.



(a)	Describe how this anaerobic digester is used to generate electricity.	
	Use the diagram to support your answer.	
		. [4
(b)	State one way the processed organic waste can be used by the local population.	

C)	The anaerobic digester uses numan waste from tollets.	
	Suggest how using anaerobic digesters reduces the spread of disease.	
		ſΩ

(d) A student says:

Anaerobic digesters are a bad investment because they cannot dispose of all types of waste.

More electricity can be generated by burning waste.

To what extent do you agree with this statement? Give reasons for your answer.
rea
[6]

[Total: 14]

7 The newspaper article describes the impact of flooding in Iran in 2019.

Severe flooding in Iran

In March and April 2019, flooding affected large parts of Iran: 25 of Iran's 31 provinces were affected and at least 70 people died. One province received 70% of its average annual rainfall in one day.

Several large dams overflowed, and many people were evacuated. Over 1900 cities and villages across the country were damaged by floods.

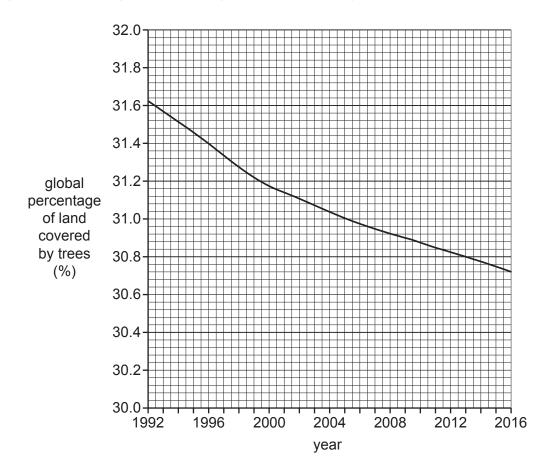
Experts blamed the severity of the floods on an increase in the amount of building in Iran and a lack of proper drainage systems.

One climate scientist said, 'Heavy rainfall and flooding will not solve the problems caused by 10 years of drought.'

(a)	(i)	Give two reasons why this severe flooding occurred in Iran.
		[2]
	(ii)	Calculate the percentage of Iran's provinces affected by flooding.
		% [1]
(b)	(i)	Describe strategies for managing the impacts of flooding.
		[4]

(ii) The malaria	parasite is spread by mosqu	uitoes.	
State how flo	ooding might impact the spre	ead of malaria.	
Give a reaso	on for your answer.		
			[1]
(c) Suggest why the of drought in Iran	heavy rainfall and flooding	will not solve the probler	ns caused by 10 years
			[4]
			[Total: 12]

8 The graph shows the global percentage of land covered by trees from 1992 to 2016.



(a)	(i)	Describe the trend in global percentage of land covered by trees from 1992 to 2016.
		[2]
	(ii)	Suggest reasons for this trend.
		[3]

(b)	Describe strategies a country can use to preserve its forests.
	[5]
	[Total: 10]

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