



Cambridge IGCSE[™]

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097122484

ENVIRONMENTAL MANAGEMENT

0680/13

Paper 1 Theory

May/June 2025

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.

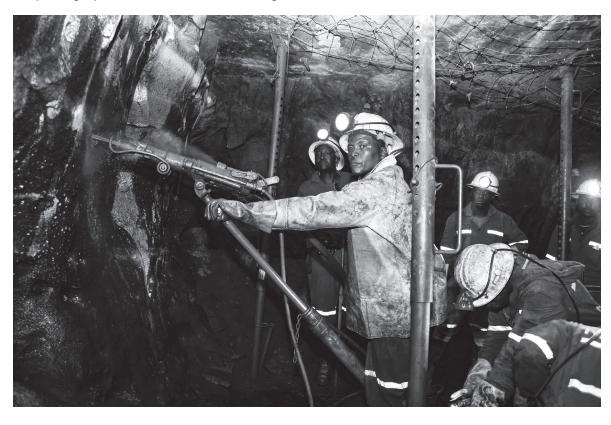
INFORMATION

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

This document has 16 pages.

2 Section A

1 The photograph shows workers extracting coal from a mine.



(a) Circle the name for this method of extracting coal.

strip

opencast

| | | [1] |
|-----|--|-----|
| (b) | Describe the formation of coal. | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | [3] |
| (c) | State two benefits to local people of a new coal mine opening in an area. | |
| | 1 | |
| | | |
| | 2 | |
| | | |
| | | [2] |

fracking

shaft

[Total: 6]



2 A report states that worldwide, 6.3 billion tonnes of plastic is disposed of each year.

3

Only 9% of this plastic waste is recycled.

(a) Calculate the mass of plastic that is recycled.

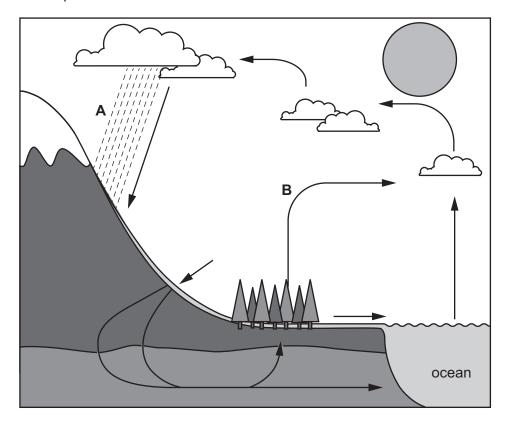
| | | billion tonnes [1] |
|-----|------|---|
| (b) | Sta | te two limitations of using landfill sites for waste disposal. |
| | 1 | |
| | | |
| | 2 | |
| | | |
| | | [2] |
| (c) | Bio | remediation and soil improvement are strategies for restoring land used for landfill sites. |
| | (i) | Explain how bioremediation restores landscapes. |
| | | |
| | | |
| | | |
| | | [2] |
| | (ii) | Describe how organic matter improves soil. |
| | | |
| | | |
| | | |
| | | [2] |
| | | |
| | | [Total: 7] |

0680/13/M/J/25

3

The diagram shows part of the water cycle.

Key→ process



| (a) |) Name | process | A and | l process | В. |
|-----|--------|---------|-------|-----------|----|
|-----|--------|---------|-------|-----------|----|

| Α | ١ | | | |
|---|---|------|------|--|
| | | | | |
| | | | | |
| | | | | |

| В | | |
|---|----|----|
| | [2 | 2] |

| 1 |
|---|
|---|



| | | | | | |
|------|------|---|---|---|---------|
| | | | | | |
| | | | | | |
| | | | | ••••• | |
| | | | | | |
| | | | | | |
| | | | | | [2] |
| | | • | • | • | [∠] |

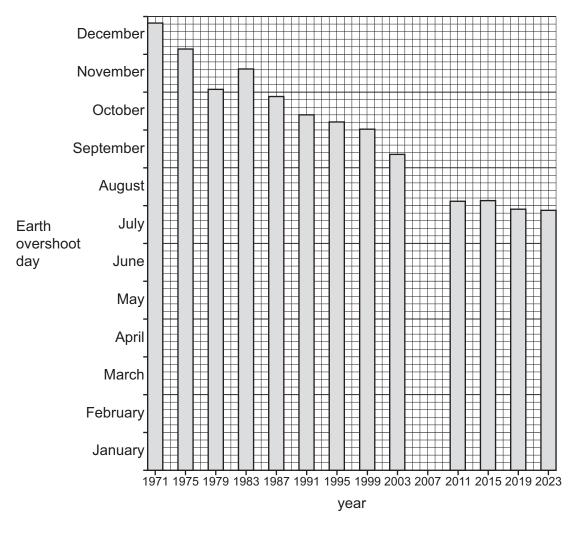
[Total: 7]



Section B

4 (a) The diagram shows Earth overshoot day from 1971 to 2023.

Earth overshoot day is the day when scientists predict that people use up all the resources that the Earth's ecosystems can produce in that year.



| ., | (i) | The predicted | Earth | overshoot | day for | 2007 | was | 15 Augus | st. |
|----|-----|---------------|-------|-----------|---------|------|-----|----------|-----|
|----|-----|---------------|-------|-----------|---------|------|-----|----------|-----|

Complete the diagram to show this day.

(ii) Describe the trend in predicted Earth overshoot day shown in the diagram.

[1]

[2]



(i)

(ii)

(b) Reducing birth rate will delay Earth overshoot day.

| State three strategies to reduce the birth rate in a country. |
|---|
| 1 |
| |
| 2 |
| 3 |
| [3] |
| Suggest two reasons why strategies to reduce the birth rate in some countries are not successful. |
| 1 |
| |
| 2 |



(c) Recycling is one way resources are used efficiently.

A student collects information about recycling different materials.

| recycled material | information |
|-------------------|---|
| paper | 1 tonne of recycled paper saves 17 trees and 27 000 dm ³ of water |
| clothing | nearly 100% of clothing is recyclable |
| glass | using recycled glass to make a bottle takes 2700 kJ of energy compared to 3900 kJ if making it from raw materials |
| copper | using recycled copper saves 90% of energy used to extract copper from rocks |

7

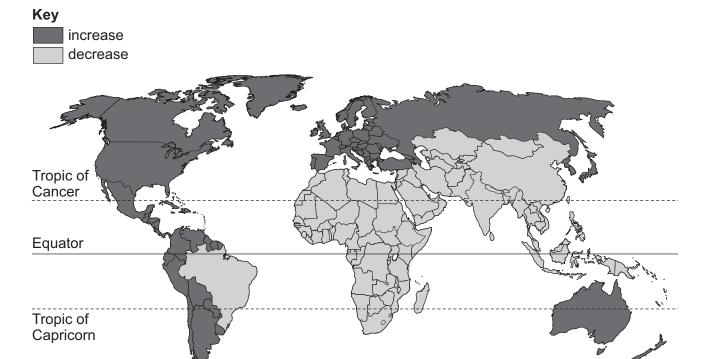
Explain the benefits of recycling. You may use information from the table to support your answer. (ii) Suggest **two** ways to increase recycling. [2]

[Total: 15]





5 The map shows the predicted change in global agricultural yield between 2018 and 2050.



| Describe the predicted changes shown on the map. | |
|--|-----|
| | |
| | |
| | |
| | |
| | |
| | [3] |

9

| o) | inte | nsive agricultural practices affect global agricultural yield. | |
|----|-------|--|-----|
| | (i) | Describe the meaning of intensive agricultural practices. | |
| | | | |
| | /ii\ | Describe how over cultivation causes soil erosion. | [1] |
| | (ii) | Describe now over cultivation causes soil erosion. | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | [3] |
| c) | Des | cribe how these strategies maintain crop yields. | |
| | trick | le drip irrigation | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | con | tour ploughing | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | [4] |

[Total: 11]



[2]



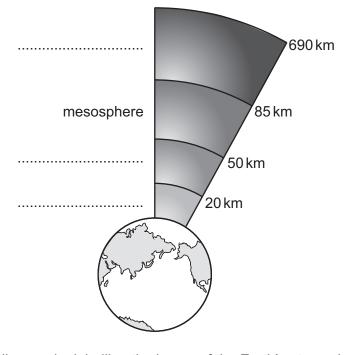
6 (a) The diagram shows some of the gases in unpolluted, dry air.

| 78% | oxygen 21% |
|-----|---------------|
| | |
| | |
| | other |
| | gases 1% |

10

| (i) | Complete the label for the gas which is 78% of unpolluted, dry air. | [1] |
|------|---|-----|
| (ii) | Name two gases which are included in the category 'other gases'. | |
| | 1 | |
| | 2 | |
| · | plain the importance of oxygen in the atmosphere to living organisms. | [2] |
| | | |

(c) The diagram shows layers of the Earth's atmosphere.



Complete the diagram by labelling the layers of the Earth's atmosphere.

[3]

[Total: 8]

(b)



7 (a) The Earth's structure has three main layers.

Use the words from the list to complete the sentences about the Earth's structure.

11

The words may be used once, more than once, or not at all.

| | core | constructive | cyclones | destructive | | | | |
|-----|--|------------------|----------|-------------|--|--|--|--|
| | earthquakes | igneous | magma | sedimentary | | | | |
| Th | The three main layers in the Earth are the mantle, the crust and the | | | | | | | |
| Th | The crust contains rocks. Basalt is rock. | | | | | | | |
| Th | The crust is made up of tectonic plates. When these plates move away from each other the | | | | | | | |
| pla | ate movement is calle | ed | | | | | | |
| Th | e edges of plates are | e a location for | | [4] | | | | |



* 0000800000012 *

diagram 1

12

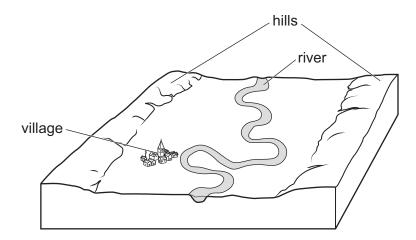
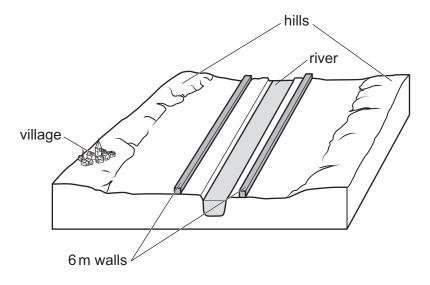


Diagram 2 shows the same area after flood management techniques are introduced.

diagram 2



13

Use diagram 2 to identify three flood management techniques that have been used to reduce the risk of flooding. Explain how each technique reduces the risk of flooding. technique 1 explanation technique 2 explanation technique 3 explanation [3] Flood management techniques are strategies to reduce the impact of flooding. (ii) State **two** other strategies to reduce the impact of flooding. 2 [2] (iii) State **one** opportunity flooding can provide to local people.

[Total: 10]



8 (a) Define these components of an ecosystem:

| tic factor | |
|------------|-----|
| nmunity | |
| | |
| he | |
| | [3] |

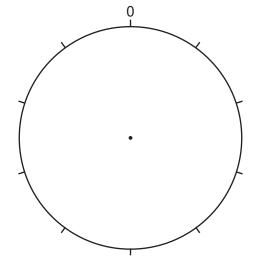
(b) Human activity impacts ecosystems.

One impact is the extinction of animal species.

The table shows the reasons for animal extinctions.

| reason for animal extinction | percentage of extinctions |
|------------------------------------|---------------------------|
| habitat destruction | 36 |
| hunting | 23 |
| introduction of non-native species | 39 |
| other | 2 |

(i) Use the data in the table to complete the pie chart and the key.



| Key | |
|-----|--|
| | |
| | |
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| | |

[4]

| * 00008000 | 000015 * | |
|------------|----------|--|
| | | |

(ii)

| ı | Ш | | Ш | Ш | Ш | П | П | Ш | П | П | Ш | | | |
|---|---|--|---|---|---|---|---|---|---|---|---|--|--|--|
| ı | Ш | | Ш | Ш | Ш | П | П | Ш | П | П | Ш | | | |
| ı | Ш | | Ш | Ш | Ш | П | П | Ш | П | Н | Ш | | | |
| П | Ш | | ш | ш | ш | П | ш | Ш | п | Н | • | | | |

| Suggest reasons why the introduction of non-native animal species causes the extinction of other animal species. |
|--|
| |
| |
| |
| |
| |
| [3] |

15

(c) A student says:

Many ecosystems are too damaged to be conserved.

16

Government money should be invested in protecting ecosystems that are **not** damaged.

Money should **not** be used on ecosystems which are damaged.

| To what extent do you agree with this statement? Give reasons for your answer. |
|--|
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| |
| [6] |
| [Total: 16] |

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