



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

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**ENVIRONMENTAL MANAGEMENT**

**0680/13**

Paper 1

**October/November 2016**

**1 hour 30 minutes**

Candidates answer on the Question Paper.

No Additional Materials are required.

**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.**

Answer **all** questions.

Electronic calculators may be used.

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

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

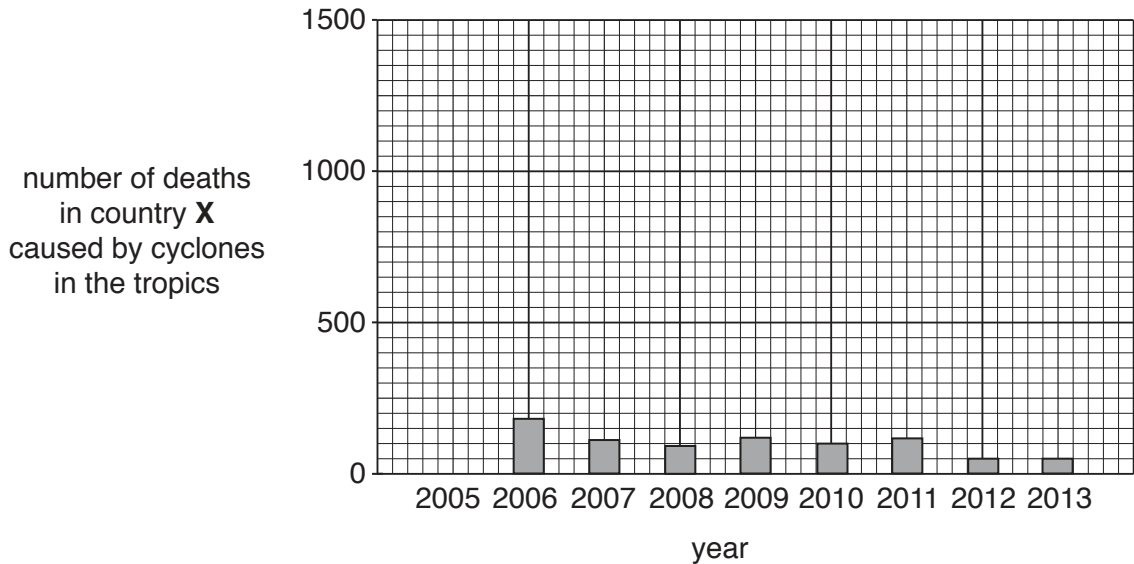
This document consists of **13** printed pages and **3** blank pages.

- 1 (a) (i) Fill in the gaps in the passage describing the formation of a cyclone. Use words and numbers from the list below.

15      22      27      clouds      dry      eye      high      low  
 moist      moisture      snow      spin      straighten

Cyclones form when seawater reaches temperatures of over .....°C in the tropics. The air above the sea is heated. The warm, ..... air starts to rise. A centre of ..... pressure develops and sucks air in. The rotation of the Earth causes the air to ..... around the centre of the cyclone. Winds blow at high speeds. The ..... in the rising air condenses producing ..... and heavy rain. [3]

- (ii) Look at the graph below, which shows the number of deaths in country X caused by cyclones in the tropics in some years.



In 2005, cyclones in the tropics caused 1440 deaths in country X. Complete the graph using this information. [1]

- (iii) In 1999, cyclones in the tropics killed many more people in country X than in 2013. Suggest **three** reasons for the difference.

.....  
 .....  
 .....  
 .....  
 .....  
 ..... [3]

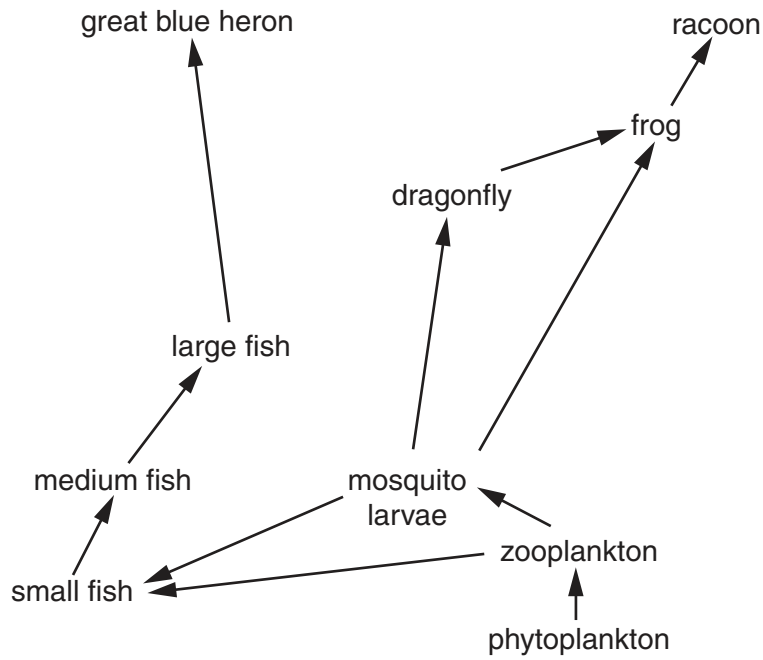
(b) (i) State the meaning of the term *drought*.

.....  
.....[1]

(ii) Suggest **two** ways to reduce the effects of drought.

.....  
.....  
.....  
.....[2]

2 Look at the drawing below of part of the food web of a wetland ecosystem.



(a) (i) In the space below, draw a food chain from the wetland food web that includes the great blue heron and phytoplankton. [3]

(ii) The zooplankton is a primary consumer in this food web.

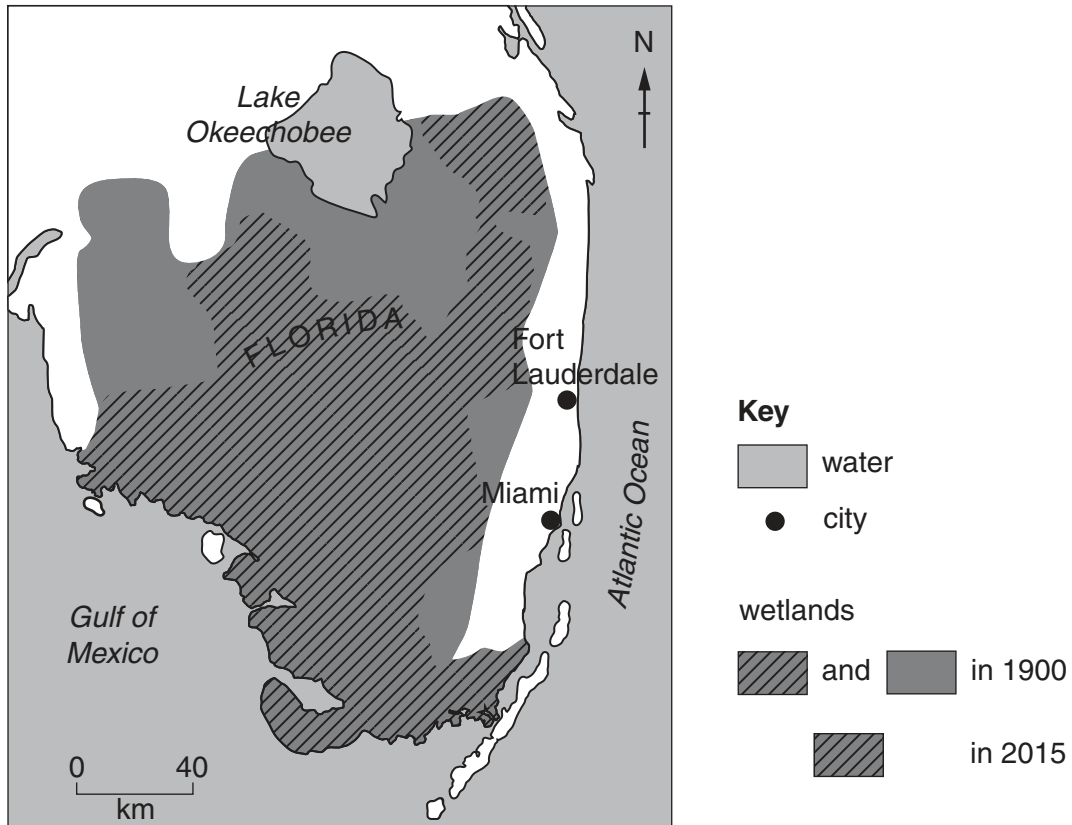
Name a producer and a secondary consumer in this food web.

producer .....

secondary consumer .....

[2]

(b) Look at the map below, which shows the extent of wetlands in southern Florida in 1900 and in 2015.



(i) Describe the changes in distribution of wetlands in southern Florida between 1900 and 2015.

.....  
 .....  
 .....  
 ..... [2]

(ii) Suggest why some wetlands around the world are being drained.

.....  
 .....  
 .....  
 .....  
 .....  
 ..... [3]

3 (a) The main gases in the Earth's atmosphere are nitrogen, oxygen, carbon dioxide and water vapour.

(i) State the names of the gases from this list that are greenhouse gases.

.....[1]

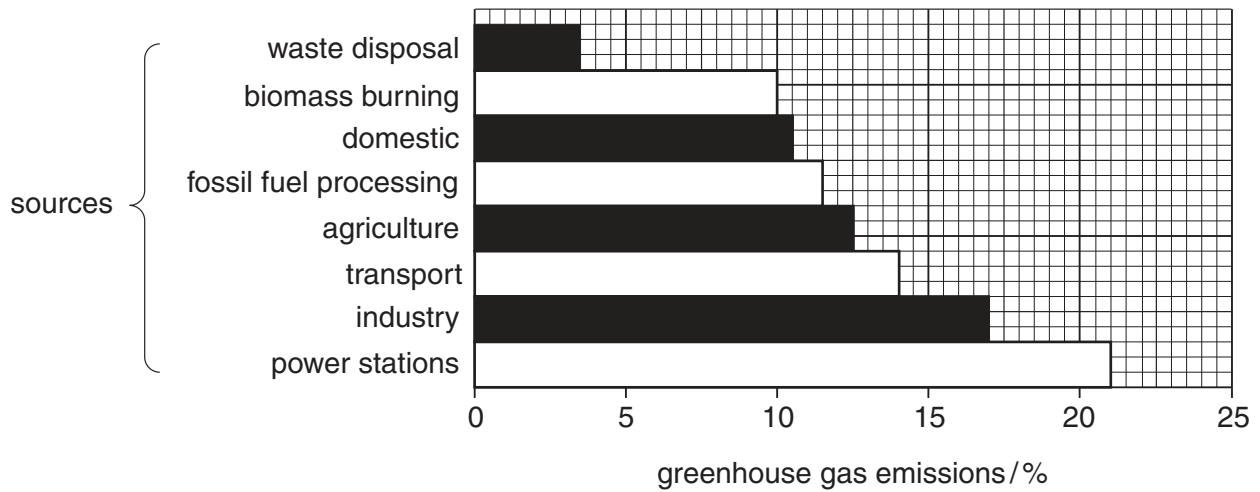
(ii) State the name of the gas from this list which is used by plants in photosynthesis.

.....[1]

(iii) Explain how greenhouse gases may cause climate change.

.....  
.....  
.....  
.....  
.....  
.....  
.....[3]

(b) Look at the graph below, which shows the sources of greenhouse gas emissions from human activity.



(i) A textbook states,

‘Over 50% of greenhouse gas emissions come from transport, industry and power stations.’

Use the information in the graph to decide if the textbook statement is true or false. Explain your answer.

.....  
.....  
.....  
.....[2]

(ii) Suggest **three** ways in which the emission of greenhouse gases from transport could be reduced.

.....  
.....  
.....  
.....  
.....  
.....[3]

- 4 (a) Look at the map below, which shows the distribution of malaria in one part of the world.



- (i) Describe the distribution of malaria shown on the map.

.....

.....

.....

.....[2]



(ii) Explain how malaria spreads through a human population.

.....  
.....  
.....  
.....  
.....  
.....  
.....[3]

(iii) Water-related diseases can be water-borne or water-based.

Name **one** disease of each type.

water-borne .....

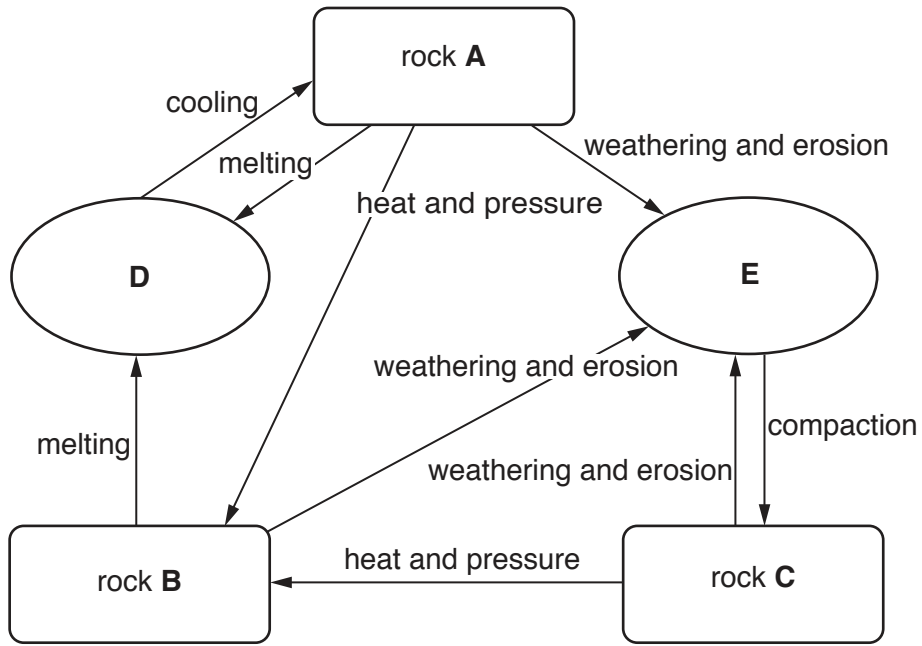
water-based .....

[2]

(b) Describe **two** strategies to control and eradicate water-related diseases.

.....  
.....  
.....  
.....  
.....  
.....  
.....[3]

5 Look at the diagram below, which shows the rock cycle.

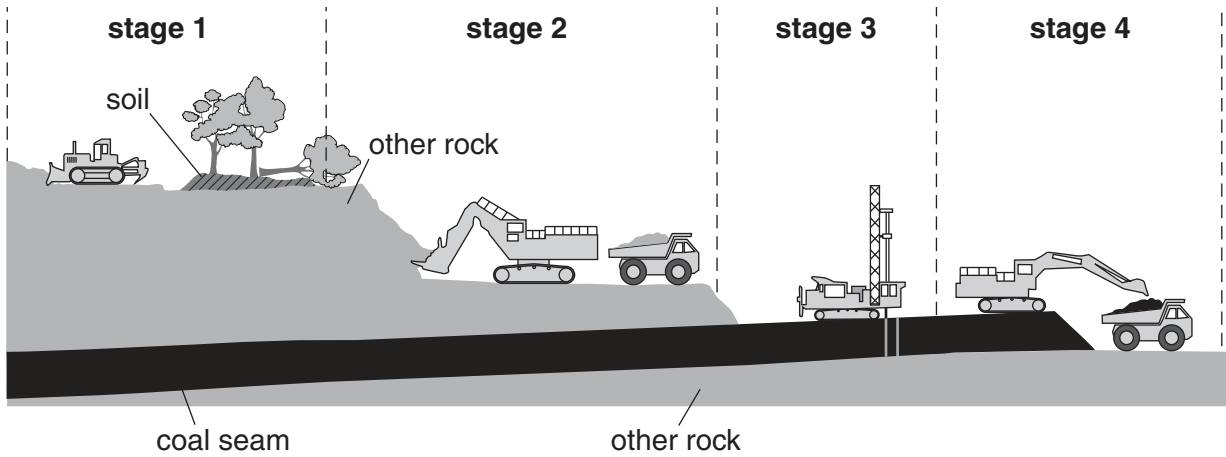


(a) Complete the table below using letters from the diagram.

stage in the rock cycle	letter
igneous rock	.....
magma	.....
metamorphic rock	.....
sedimentary rock	.....
sediment	.....

[3]

- (b) Rocks, such as coal, are obtained by mining.  
Look at the diagram below, which shows part of an open-pit (opencast) coal mine.



- (i) Using the diagram, describe the process of open-pit mining.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[3]

- (ii) Landscaping and restoration often take place after mining has finished.  
Explain how these methods might be used in the open-pit mine in the diagram.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[4]

- 6 (a) Look at the photograph below of an area of land which was cleared 30 years ago.



Vegetational succession has taken place.

Describe what has happened over the 30-year period. You may use some or all of the words below.

**competition      dispersal      seeds      soil**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....[4]

(b) (i) State **two** reasons for deforestation.

.....  
.....  
.....  
.....[2]

(ii) Deforestation can lead to soil erosion.

Describe **one** way of reducing deforestation and **one** different way of reducing soil erosion.

reducing deforestation .....

.....  
.....  
.....  
.....

reducing soil erosion .....

.....  
.....  
.....  
.....[4]





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