ENVIRONMENTAL MANAGEMENT

Paper 1

0680/01

May/June 2005

1 hour 30 minutes

Candidates answer on the Question Paper.
Additional Materials: Ruler (cm/mm)

Candidate
Name

Centre
Number

Candidate
Number

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 in the spaces provided on the Question Paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

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

DO NOT WRITE IN THE BARCODE.

DO NOT WRITE IN THE GREY AREAS BETWEEN THE PAGES.

FOR EXAMINER'S USE	
1	
2	
3	
4	
5	
6	
TOTAL	

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

UNIVERSITY *of* CAMBRIDGE
International Examinations

[Turn over

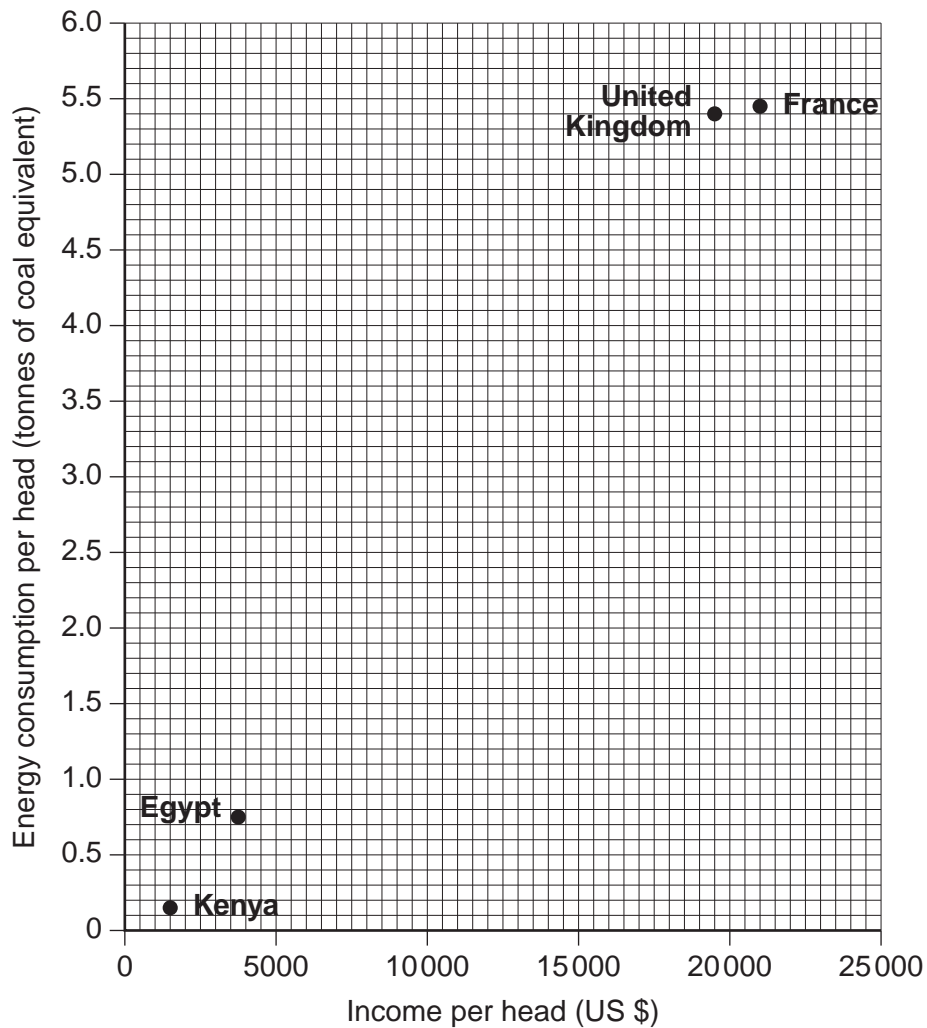**1 (a)** The graph below shows the income per head and energy consumption for four countries.

Country	Energy consumption	Income per head
Brazil	0.8	$5400
Japan	4.7	$22 110

(i) Plot the figures for Brazil and Japan on the graph. [2]

(ii) Describe the pattern shown by the graph and give **one** reason for the pattern that you have described.

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(b) One way of generating electricity is by using nuclear power. State **one** advantage and **one** disadvantage of using this method.

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(c) Many countries use fossil fuels for most of their energy. How can supplies of such fossil fuels be made to last longer?

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[Total: 10]

2 Read the following passage:

Cubatao is a town in South East Brazil where industrial development has led to very high levels of pollution. The town is located in a steep-sided valley and its industries include a steelworks, an oil refinery and a factory producing fertilisers and other chemicals. The smog-filled air has lead to breathing difficulties and other diseases among the people of the town. Trees on the steep valley sides have died from pollution. The rivers have been polluted by chemical spills and other wastes, including those from humans.

(a) (i) Give **one** reason why Cubatao's location in a valley increases air pollution.

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(ii) Describe and explain environmental problems that could result from the death of forests on the valley sides.

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(b) (i) The water in the river has to be used by the people of the town for drinking, washing and so on. The passage says that it has been polluted by human waste. State **one** problem this might cause.

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....[1]

(ii) How might the government of the town make the water safer for use by the people of the town?

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(c) Suggest ways in which environments damaged by industrial development can be restored.
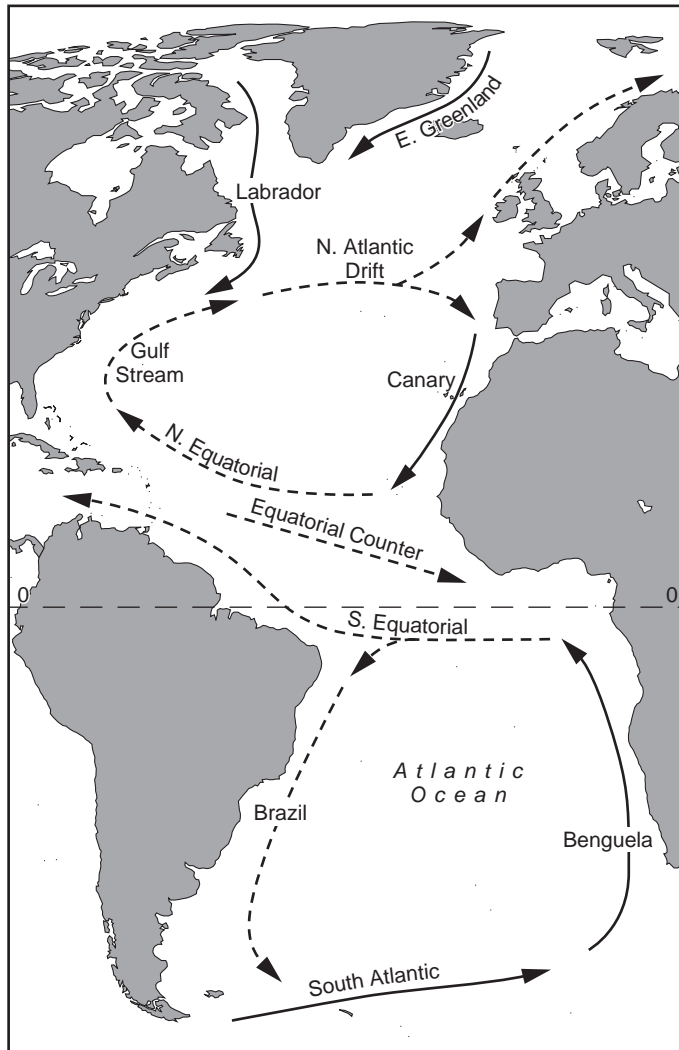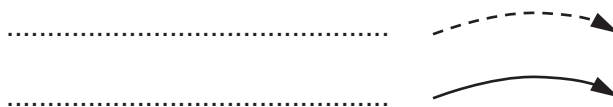
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[Total: 10]

3 The map below shows the main ocean currents for part of the world.

Key:

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(a) (i) Complete the key above for warm and cold currents. [1]

(ii) Describe the pattern of ocean currents in the Atlantic Ocean

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(iii) Describe how a cold ocean current may affect the climate of nearby coastal areas.

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(b) (i) What is *overfishing*?

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(ii) Explain why international action is needed to bring about sustainable fishing practices.

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[Total: 10]

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4 **(a)** Look at the two newspaper articles below which refer to two major floods, one which happened in 1993 in the Mississippi River in the USA, a developed country, and the other which affected the Ganges/Brahmaputra rivers in Bangladesh, a developing country, in 1988.

'Floods Hit Mississippi'

Major floods have affected the whole Mississippi River area of the USA. A total of 26 000 square kilometres have been flooded and 50 000 people have been moved out of their homes to safety. Sadly it was too late for 43 who died. The floods are the result of unusually heavy rain throughout April, May, June and July.

'Over 1000 die in floods in Bangladesh'

In recent weeks 70% of the Asian country of Bangladesh has been flooded. The result of 4 months of very heavy rain (from May to August), the floods have killed at least 1300 people, although the final total may be much higher due to outbreaks of cholera and dysentery. 7 million homes have been destroyed, making 25 million people homeless.

(a) **(i)** What was the common cause of both floods?

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(ii) Compare the death toll for the two floods.

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....[1]

(iii) State **one** *other* common effect of both floods

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(b) Suggest reasons for the different effects of the two floods

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(c) State **one** beneficial effect of flooding

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(d) Is improved weather forecasting an appropriate way to reduce the effects of a flood in a developing country? Give reasons for your answer.

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[Total: 10]

5 (a) (i) What is meant by the term *Green Revolution*?

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(ii) The figures below show changes to rice yields in India between 1931 and 2001. Plot the figures on a graph, using the graph paper below.
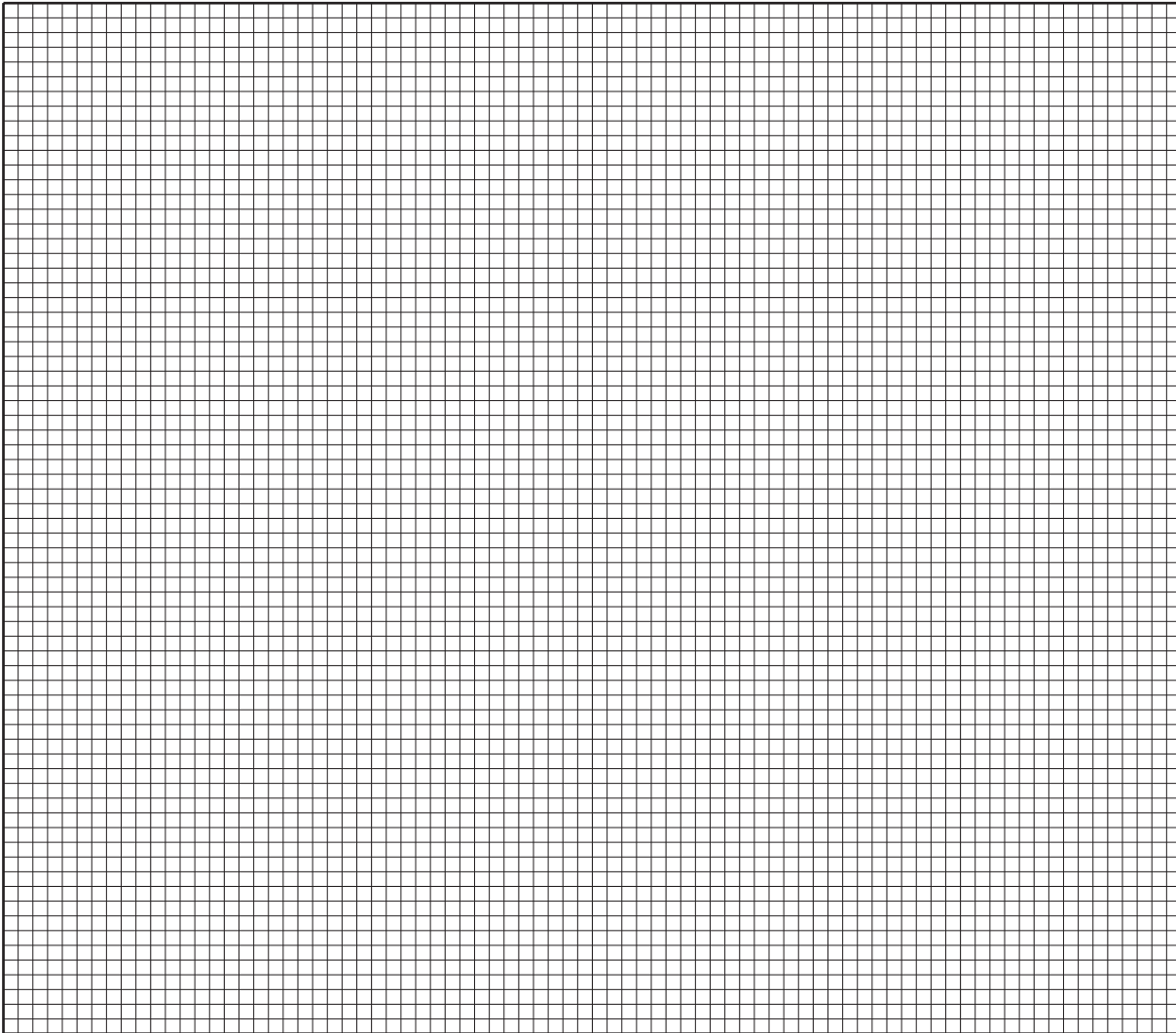
Year	1931	1961	1981	1991	2001
Yield (kg/ha)	1520	1480	1860	2620	3100

[3]

(iii) Describe the changes in yield between 1931 and 2001.

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(b) One feature of the Green Revolution is that more of the land is owned by fewer people. Do you think that this is a good thing? Give reasons for your answer.

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[Total: 10]

6 In river and pond ecosystems in certain parts of the world, the disease malaria is a major problem. Malaria is transmitted by mosquitoes. Below is a FOOD WEB for such an ecosystem.
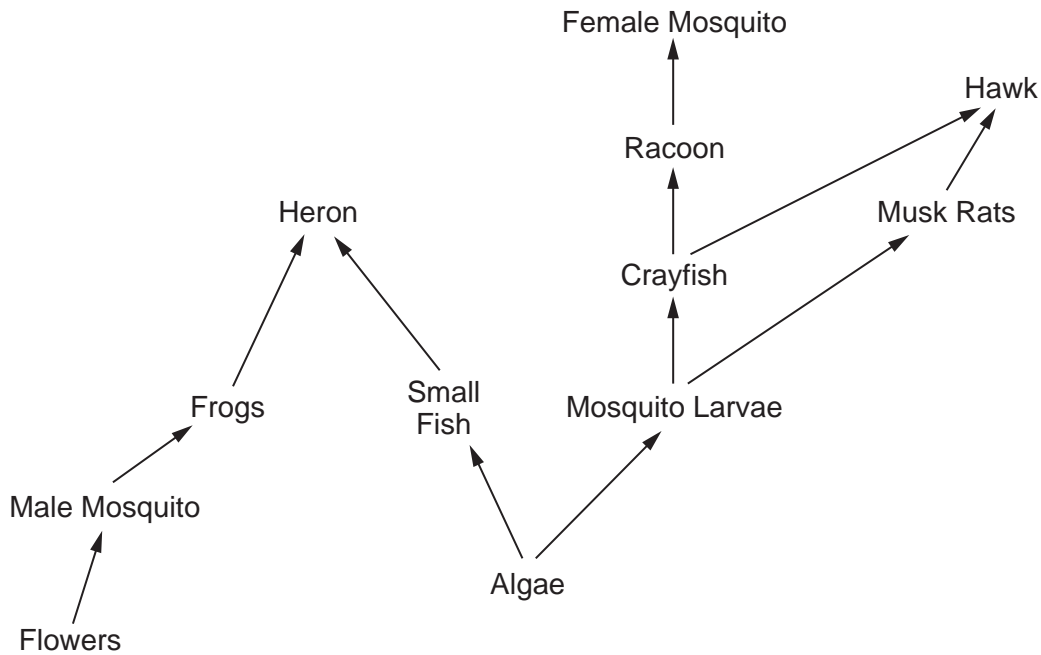
(a) (i) Using the food web above, draw a food chain which involves female mosquitoes.

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(ii) The arrows on the food web diagram represent the flow of energy from eaten to eater. What is the source of this energy?

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(b) (i) Give details of **one** strategy for reducing mosquito numbers in an area.

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(ii) Describe and explain **two** ways in which the strategy described in **b (i)** might affect the numbers of animals and/or plants (*other than* mosquitoes) in the food web above.

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[Total: 10]

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