

CANDIDATE  
NAME

CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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**ENVIRONMENTAL MANAGEMENT**

**0680/22**

Paper 2

**February/March 2018**

**1 hour 45 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 **both** questions.

Electronic calculators may be used.

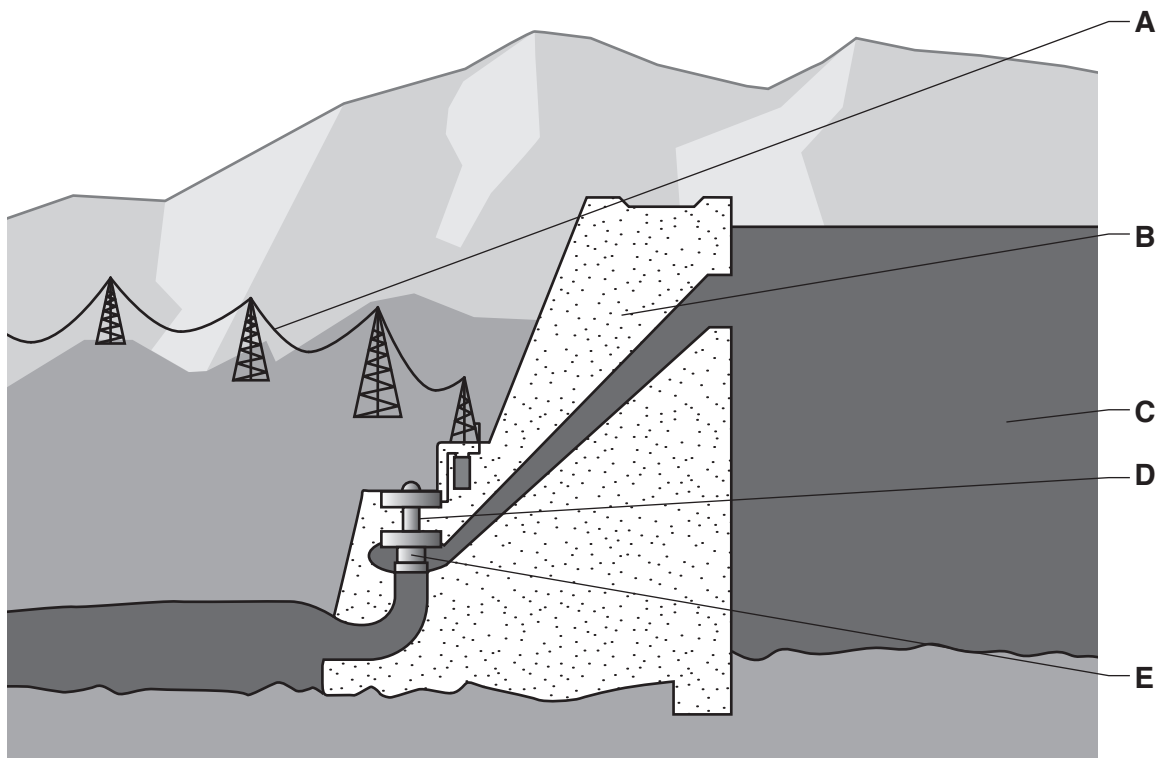
You may lose marks if you do not show your working or if you do not use appropriate units.

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 **14** printed pages and **2** blank pages.

- 1 (a) The diagram shows a dam and hydro-electric power (HEP) station.



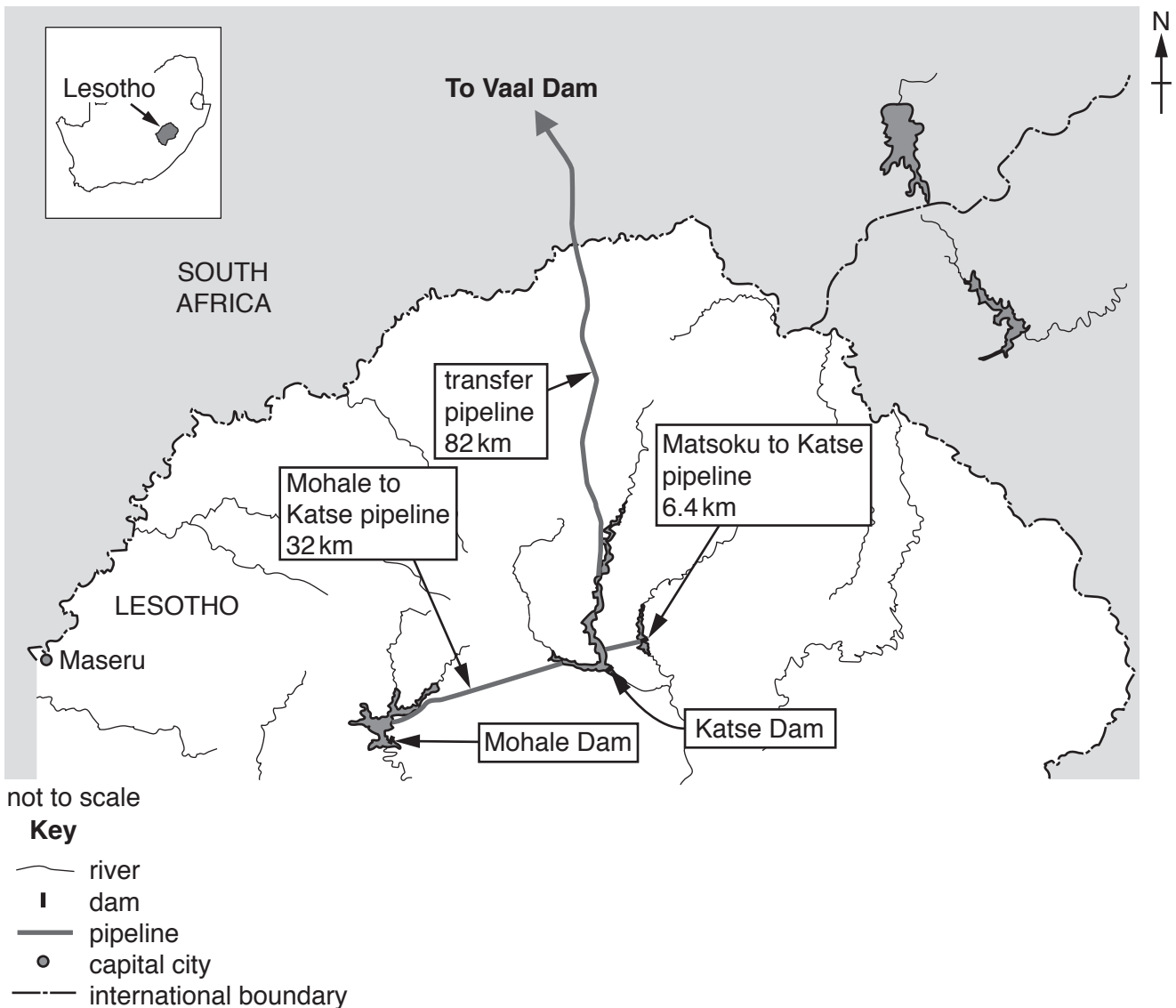
Using the diagram, match the letters, **A**, **B**, **C**, **D** and **E**, to the correct term.

term	letter
dam wall	.....
electricity transmission line	.....
generators	.....
reservoir	.....
turbines	.....

[4]

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(b) The information is about the Lesotho Highlands Water Project.



Lesotho is a developing country. The mountains of Lesotho usually receive large volumes of rainfall. Water from Lesotho is sold to South Africa for use in industry. A pipeline takes the water to the Vaal Dam near Johannesburg in South Africa. Many large dams have been built in the river valleys of Lesotho where people used to live and farm. Hundreds of people were forced to move from the valleys. They were promised money from the project would be spent to improve their lives. Instead, many live in poverty as there is no good farmland for them. They often have no electricity even though the project also produces HEP.

(i) Suggest why South Africa needs water from Lesotho.

.....

.....

.....

..... [2]

(ii) State **two** reasons why the government of Lesotho wanted to build the Highlands Water Project.

1 .....

.....

2 .....

.....

[2]

(iii) State the length of the transfer pipeline from the Katse Dam in Lesotho to the Vaal Dam in South Africa.

..... km [1]

(iv) Suggest why water is transferred by pipeline from the Mohale Dam and Matsuko river to the Katse Dam.

.....

..... [1]

(v) Explain why many people in Lesotho are unhappy with the Lesotho Highlands Water Project.

.....

.....

.....

.....

.....

.....

[3]

(vi) State **two** environmental impacts of building large dams.

1 .....

.....

2 .....

.....

[2]

(c) The table shows average rainfall figures for a weather station in Lesotho and the rainfall figures for the period June 2015 to May 2016.

month	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	total
average monthly rainfall /mm	8	9	19	33	65	92	120	128	107	95	45	16	737
rainfall June 2015 to May 2016 /mm	15	30	3	12	8	10	72	65	20	38	32	20	325

(i) Calculate the difference between the average rainfall total and the total for the period June 2015 to May 2016.

..... mm [1]

(ii) The rainy season in Lesotho is from the start of October to the end of March. Describe differences in rainfall between an average year and that of 2015–2016 during these months.

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

(iii) The change in rainfall for 2015–2016 is thought to have been the result of El Niño. Describe the causes of El Niño.

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

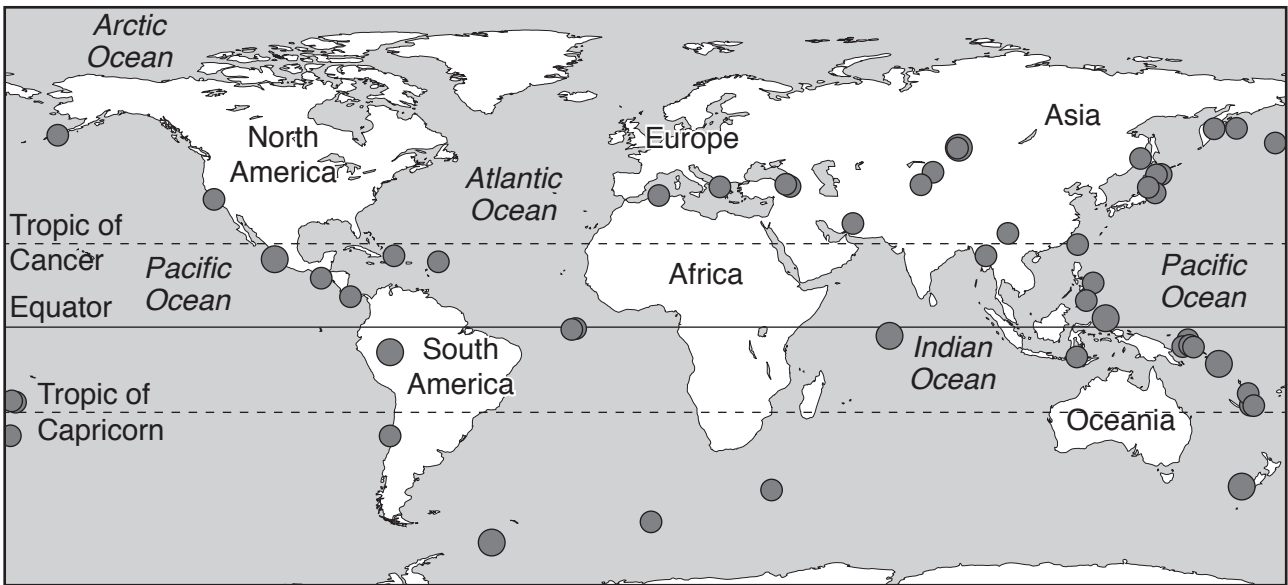








2 (a) The map shows the locations of major earthquakes in 2003.



**Key** ● major earthquake

Describe the distribution of earthquakes shown on the map.

.....

.....

.....

.....

.....

.....

.....

[3]



(c) The photograph shows part of the damage caused by an earthquake in Haiti.



(i) Describe the damage shown in the photograph.

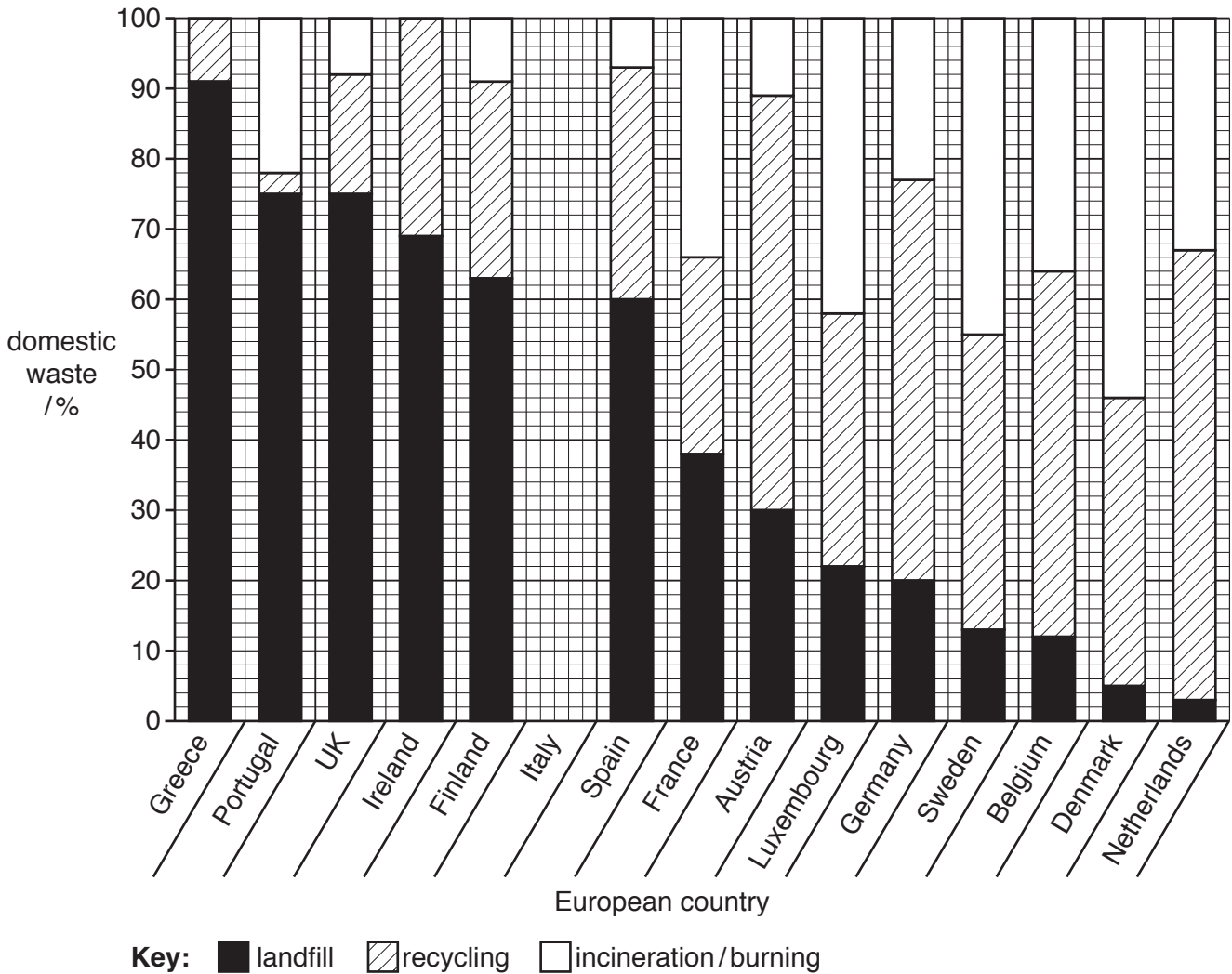
.....  
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.....  
..... [2]

(ii) Describe the impacts of the earthquake on the people living in the area shown in the photograph.

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



(d) The graph shows what happens to domestic waste in fifteen European countries.



(i) Complete the graph, by adding a bar for Italy using the key and these percentages.

landfill                      62%  
 recycling                    27%  
 incineration/burning    11%

[3]

(ii) State the country that sends the most waste to:

landfill .....

recycling .....

[2]

(iii) State the percentage of waste that is incinerated in Sweden.

.....%

[1]

(iv) State the meaning of the term *recycling*.

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

(v) Explain the benefits of recycling.

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

(vi) Suggest why some countries recycle more domestic waste than other countries.

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

(e) Over-exploitation and depletion of mineral and fossil fuel reserves are international problems. Outline how these problems can be reduced.

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..... [6]

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